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## CONTENTS AND SUBJECT INDEX

### SPECIAL ARTICLES:

- Cholesterosis of the Gall Bladder.** By E. Starr Judd, Rochester, Minnesota, and Stanley H. Mentzer, San Francisco ..... 337
- The Doctor's Civic Obligations.** By W. R. Calderwood, Salt Lake City, Utah..... 340
- Lymphoblastoma.** By Harold B. Thompson, Seattle, Washington..... 343
- Backache Due to Seminal Vesiculitis and Prostatitis.** By Miley B. Wesson, San Francisco..... 346  
 Discussion by Thomas A. Stoddard, San Francisco; F. S. Dillingham, Los Angeles; R. Campbell Begg, Wellington, New Zealand; H. A. Rosenkranz, Los Angeles; Robert V. Day, Los Angeles.
- Arthritic Joint Pains and Gout.** By J. Edward Harbinson, Woodland..... 352  
 Discussion by Philip King Brown, San Francisco; Ernest H. Falconer, San Francisco.
- Poliomyelitis Control.** By George E. Ebricht, San Francisco..... 354
- Tuberculosis: Some Phases of Treatment.** By Joseph W. Cook, Banning ..... 357  
 Discussion by Lewis Sayre Mace, San Francisco; Francis M. Pottenger, Monrovia; George H. Evans, San Francisco.
- Granuloma Coccidioides — Apparently Successfully Treated with Colloidal Copper.** By H. P. Jacobson, Los Angeles ..... 360  
 Discussion by Anstruther Davidson, Los Angeles; Irwin C. Sutton, Hollywood; Kendal Frost, Los Angeles; Philip H. Pier-son, San Francisco.
- Streptococcus Mucosus Infection Causing Lateral Sinus Thrombosis.** By H. J. Profant, Santa Barbara..... 364  
 Discussion by Hill Hastings, Los Angeles; Harrington B. Graham, San Francisco; Barton J. Powell, Stockton.
- Comparative Incidence of Pelvic Pathology.** By Homer Carlton Seaver, Los Angeles..... 367  
 Discussion by Ludwig A. Emge, San Francisco; Thomas O. Burger, San Diego; George Joyce Hall, Sacramento.
- Anesthesia—Some of Its Postoperative Pulmonary Complications.** By L. R. Chandler, San Francisco..... 370

- The Supervision of Diagnostic Laboratories.** By Wilfred H. Kellogg, San Francisco..... 375

- Anesthesia in Urologic Surgery.** By Mary E. Botsford, Ethel Righetti, and Clark M. Johnson, San Francisco 377

### BEDSIDE MEDICINE:

- Poliomyelitis** ..... 379  
 Discussion by Bert Thomas, Sacramento; Fred B. Clarke, Long Beach; A. G. Bower, Glendale; Harold K. Faber, San Francisco.

### EDITORIALS:

- The Reason Why of a State Medical Journal ..... 381  
 The Collection of Fees..... 383  
 The 1926 International Public Health Work of the Rockefeller Foundation 383  
 Who Shall Rate Clinical Laboratories? 384

### MEDICINE TODAY:

- Dont's for Dermatologic Therapeutics, Moses Scholtz, Los Angeles; Diphtheria Immunization, Oscar Reiss, Los Angeles; Palliative Neurosurgical Methods, Howard W. Fleming, San Francisco; Bladder Neck Contracture, Roger W. Barnes, Los Angeles; Treatment of Strabismus, William A. Boyce, Los Angeles; Diet in Pregnancy, P. Martin Keller, Los Angeles; Bismuth Salt Therapy in Syphilis, Merrill W. Hollingsworth, Santa Ana; The Carrel-Dakin Treatment of Infected Wounds, E. W. Cleary, San Francisco; Fractures of the Hip, H. W. Spiers, Los Angeles; Postoperative Treatment of Radical Mastoid Operation, C. H. Hayton, Los Angeles.....385-390

### STATE MEDICAL ASSOCIATIONS:

- California Medical Association..... 391  
 Utah State Medical Association..... 393

### MISCELLANY:

- News..... 394  
 Medical Economics..... 398  
 Readers' Forum..... 399  
 California Board of Medical Examiners 399  
 Directory of Medical Organizations. 306-308  
 Books Received..... 315  
 Book Reviews..... 315  
 Truth About Medicines..... 438

### ADVERTISEMENTS:

- See Index on Page..... 310

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# CALIFORNIA AND WESTERN MEDICINE

VOLUME XXVII

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No. 3

## CHOLESTEROSIS OF THE GALL BLADDER\*

### I. A CLINICAL STUDY

By E. STARR JUDD, M. D.  
Rochester, Minnesota

AND

STANLEY H. MENTZER, M. D.  
San Francisco

ONE thousand surgical cases of cholesterosis of the gall bladder were studied to determine what clinical and surgical differences there might be when this condition was accompanied by gall-stones. The present paper is concerned with the clinical data only, as a later paper will consider the surgical aspects of this lesion.

The cholesterosis was in the form of "strawberry," "fish-scale," or papillomatous lesions. In five hundred of the selected cases there were no stones, and in an equal number gall-stones were an accompanying feature of the lesion.

### ETIOLOGIC FACTORS

**Age and Sex**—Seventy-six per cent of the stone-free, and 82 per cent of the gall-stone cases occurred in females. The high incidence of cholesterosis of the gall bladder in the female is due probably to metabolic disturbances occurring during pregnancy, as we have previously shown. The age incidence in the two groups is essentially alike, the greatest number of cases in each group occurring between the ages of 35 and 40 (Table 1). The youngest patient was 19 years of age, and the oldest 72.

**Typhoid Fever**—The incidence of typhoid fever as an etiologic factor is essentially the same in both groups: 13 per cent in the stone-free and 14 per cent in the stone group. In a previous postmortem study of 612 cases we found that

8.5 per cent of the total number of patients had had typhoid fever, whereas 23 per cent of those with diseased gall bladders had had such a history. In our surgical series, therefore, the occurrence of typhoid fever was something less than twice as great as in an average series.

**Obesity**—In a previous paper we drew attention to the occurrence of cholesterosis of the gall bladder in the obese. Of fifty-one patients weighing more than two hundred pounds, 78 per cent showed grossly visible fatty changes in the wall of the gall bladder.

In this series of one thousand surgical cases of cholesterosis of the gall bladder the weight in 24 per cent of the stone-free cases and in 33 per cent of the gall-stone cases was more than 175 pounds. This high incidence of obesity in cases of cholesterosis of the gall bladder again suggests metabolic derangement in this disease.

**Pregnancy**—Fifty-eight per cent of the women with cholesterosis of the gall bladder alone, and 67 per cent with cholesterosis and stones had been pregnant one or more times (Table 2). It is interesting that more than 5 per cent in each group had been pregnant oftener than ten times, and more than 25 per cent, from five to ten times. These data are in accord with the well-known association of pregnancy and gall bladder disease. In our previous necropsy report 86.5 per cent of the women with cholesterosis had been parturient.

Many of the patients were aware of the association of the upper abdominal distress and the pregnancy. Some were able to date the onset of their trouble to their first or last parturition (Table 3). By far the greatest number of women (45 per cent) dated their trouble to the time of their first pregnancy.

### SYMPTOMS

**Pain**—It was rather surprising that almost all of the stone-free patients complained of some abdominal distress, as 5 per cent of those with gall-

TABLE 1  
INCIDENCE AT DIFFERENT AGES

Disease of gall bladder	19-20, per cent	20-25, per cent	25-30, per cent	30-35, per cent	35-40, per cent	40-45, per cent	45-50, per cent	50-55, per cent	55-60, per cent	60-65, per cent	65-70, per cent	70-75, per cent
Cholesterosis	0.2	3.0	7.8	13.8	19.4	17.0	15.8	14.0	5.6	2.4	1.0	
Cholesterosis and stones	0.4	2.6	7.2	13.0	14.2	16.8	15.2	16.8	8.4	3.6	1.6	0.2

\* Read before the California Medical Association at its Fifty-Sixth Annual Meeting, April 25-28, 1927. Part two of this paper will appear in the October issue of this journal.

stones gave no history of pain. But a study of Table 3 shows that the stone-free patients did not localize their discomfort in the classical gall-bladder sites so readily, and that the pain was less severe, proportionately, than that of the patients with stones. The stone-free patients with

TABLE 2  
PREGNANCY

Disease of gall bladder	No. of pregnancies						Percentage of all women
	1, per cent	2, per cent	3, per cent	4, per cent	5-10, per cent	10+, per cent	
Cholesterosis	13.8	22.5	17.7	14.2	26.3	5.3	57.6
Cholesterosis and stones	16.3	21.1	17.5	10.4	29.1	5.2	62.2

the more severe colic, as graded 3 and 4, were only half as numerous as the corresponding patients with gall-stones. Moreover, 42 per cent of the latter required morphin for the relief of their pain, whereas 25 per cent of the stone-free patients required it. It is surprising to us that

TABLE 3  
RELATION OF PREGNANCY TO FIRST SYMPTOMS

Disease of gall bladder	First symptoms noted				Percentage of total
	During pregnancy, per cent	After pregnancy, per cent	With first pregnancy, per cent	With last pregnancy, per cent	
Cholesterosis	45.6	25.8	12.9	16.2	6.2
Cholesterosis and stones	43.9	21.9	19.5	14.6	8.2

so high a percentage of the stone-free group needed hypodermic relief. We are not able to explain this satisfactorily, although we believe that the pain occurring in cholesterosis of the gall bladder is in reality hepatic in origin. Our

TABLE 4  
SEVERITY OF PAIN

Disease of gall bladder	Grade of pain							
	1, per cent	2, per cent	3, per cent	4, per cent	1-2, per cent	2-3, per cent	3-4, per cent	2-4, per cent
Cholesterosis	12.6	20.6	8.2	4.0	19.2	13.2	7.2	14.8
Cholesterosis and stones	5.7	13.4	14.8	10.0	12.3	9.5	19.5	14.6

necropsy studies showed evidence of marked fatty disturbances in the liver in the majority of the cases.

The study of the localization of distress in the

two groups is interesting. We had expected marked variations in the site of pain, but Table 5 shows that such was not the case. In 10 per cent of the stone-free and in 12 per cent of the gall-stone cases the pain was in the classical region, the right upper quadrant, radiating directly posteriorly and to the shoulders. The most frequent site of pain in both groups was in the right upper quadrant and radiating directly posteriorly. Distress in the epigastric region was complained of by 22 per cent of the stone-free patients and by 18 per cent of the others. But the patients in the stone-free group localizing their distress in the epigastric region gave vague and indefinite complaints, whereas the majority of the group with gall-stones had more severe and definitely localized pain.

The duration of distress in the two groups follows the normal expectancy. The patients with stones complained of pain of relatively short duration, whereas the patients without stones suffered for longer periods. However, the average duration of symptoms for the two groups of cases did not differ materially, being about six and one-half years for the stone-free, and five years for the gall-stone cases. The shortest duration was four hours, in a gall-stone case, and the longest, fifty-six years, in a stone-free case (Table 6).

*Gastrointestinal Symptoms*—Indigestion was an almost universal complaint in both groups. Eusterman has shown that patients with all types of gall-bladder disease give indigestion as their major complaint. Certainly it is to be expected that in cases of cholesterosis of the gall bladder, which is probably primarily a metabolic disease, indigestion would play a dominating rôle.

True qualitative food distress, however, was complained of by only half the patients. The difference between the two groups in this respect is not so great as might be expected, and the anticipated proportion is reversed, for 50 per cent of the stone-free patients had true qualitative food distress (intolerance to fats, carbohydrates and acids), whereas only 43 per cent of the patients with gall stones gave such a history. These percentages, however, may be slightly lower than usual in such cases, as a complete gastrointestinal history was lacking in 2.5 per cent of the cases in which the gall bladder was unexpectedly found diseased during operation for other abdominal lesions.

Thirty-five per cent of the stone-free patients

TABLE 5  
SITE OF PAIN

Disease of gall bladder	Right costal margin, per cent	Right upper quadrant, per cent	Epigastrium, per cent	Right lower quadrant, per cent	Left upper quadrant, per cent	Back, per cent	Shoulder, per cent	Right upper quadrant, back and shoulder per cent	Right upper quadrant and back, per cent	No pain per cent
Cholesterosis	7.8	16.2	21.8	5.8	1.0	0.6	0.4	9.8	37.4	0
Cholesterosis and stones	8.8	14.6	17.6	5.2	0	1.2	0.2	11.6	35.2	5.4

TABLE 6  
DURATION OF SYMPTOMS

Disease of gall bladder	Months 1-6, per cent	Months 6-12, per cent	Years 2, per cent	Years 3, per cent	Years 4, per cent	Years 5-10, per cent	Years 10-15, per cent	Years 15-20, per cent	Years 20+, per cent	Years average per cent
Cholesterosis	12.3	11.4	11.0	7.9	6.4	26.0	12.7	5.8	4.3	6.49
Cholesterosis and stones	14.1	15.6	16.1	15.6	16.7	18.0	9.3	4.4	2.9	5.1

and 45 per cent of those with gall-stones complained of vomiting (Table 7). The severity of the vomiting was somewhat greater in the patients with gall-stones, as might be expected. Belching and bloating were present in a slightly larger proportion of gall-stone cases (6 per cent, Table 8). Belching and bloating were complained of in approximately 30 per cent of each group.

*Jaundice*—It is surprising that the incidence of jaundice was equal in the two groups (17 per cent). It was questionable also in 4 per cent of the stone-free cases and in 1 per cent of the gall-stone cases. It is difficult to interpret this find-

TABLE 7  
SEVERITY OF VOMITING

Disease of gall bladder	Grade 1, per cent	Grade 2, per cent	Grade 3, per cent	Grade 4, per cent	Grade +, per cent	Per cent of total
Cholesterosis	30.0	49.1	5.9	0	15.2	34.6
Cholesterosis and stones	22.3	45.5	10.7	0.4	21.4	44.8

ing. The cases of cholesterosis of the gall bladder, without stones, were essentially non-inflammatory, and the likelihood of cholangitis, therefore, was lessened. In the absence of stones it is perplexing indeed to account for jaundice in cases of cholesterosis. Gall-stones might have been present previously and none found at operation, but it is difficult to believe that this could be true in 17 per cent of 500 cases. Without such an explanation we are forced to consider other causes of obstruction in the common duct. The most likely causes, aside from stones, are cholangitis or stenosis or kinking of the duct itself. It is not yet certain that metabolic changes in the liver, without obstruction of the duct, are sufficient to produce jaundice.

*Chills and Fever*—Chills and fever occurred in 22 per cent of the stone-free cases and in 18 per cent of the gall-stone cases. It would be difficult to understand the higher percentage in the stone-free group were it not that 13 per cent of the patients in this group complained of fever,

whereas only 6 per cent of the patients with gall-stones had pyrexia.

SUMMARY

One thousand cases of cholesterosis of the gall bladder were studied. In half of these gall-stones were associated. About 80 per cent of the cases in each group were in females. The age incidence in each group was highest between 35 and 40 years. Typhoid fever is noted in the histories of about 8 per cent of routine necropsy cases. In 13.5 per cent of the present series there was a history of typhoid fever. Obesity was associated in 24 per cent of the stone-free and in 33 per cent of the gall-stone cases. Pregnancy had occurred in 58 per cent and 67 per cent of the cases, respectively. The majority of women dated their trouble to the time of their first pregnancy. Pain was located in the right upper quadrant and radiated directly posteriorly in the greatest number of cases in each group. Morphine was required for the relief of pain in 25 per cent of the stone-free and in 42 per cent of the gall-stone cases. The average duration of symptoms was slightly longer in the stone-free group. Indigestion was an almost universal complaint in both groups. True qualitative food distress was present in 40 per cent of the stone-free and in 50 per cent of the gall-stone cases. Belching or bloating, or both, were present in 55 per cent and 61 per cent of the groups, respectively. Vomiting occurred in 35 per cent and 45 per cent of the groups, respectively. Jaundice was present in 17 per cent of each group. Chills and fever occurred in about 20 per cent of each group.

CONCLUSIONS

1. The clinical picture of cholesterosis of the gall bladder is not greatly altered by the presence of gall-stones.
2. There is a striking parallelism in all the features of the disease in the two groups except that the symptoms in the gall-stone cases are somewhat more severe.
3. Cholesterosis of the gall bladder is probably a localized manifestation of altered fat metabolism in the entire body.

516 Sutter Street.

TABLE 8  
BELCHING AND FLATULENCE

Disease of gall bladder	Grade 1, per cent	Grade 2, per cent	Grade 3, per cent	Grade 4, per cent	Grade +, per cent	Total, per cent	Belching, per cent	Bloating, per cent	Both, per cent	Total, per cent
Cholesterosis	19.7	47.2	25.8	0.9	6.8	53.4	50.0	21.2	28.7	61.8
Cholesterosis and stones	18.3	35.6	16.5	0.2	0	79.7	43.4	23.5	32.9	55.6

## THE DOCTOR'S CIVIC OBLIGATIONS\*

By W. R. CALDERWOOD, M. D.  
Salt Lake City, Utah

I DESIRE to express my sincere appreciation for the distinguished honor you have conferred on me in permitting me to serve as your presiding officer and to help in shaping the policy of your association in these important and rapidly changing times.

I desire also to extend my thanks and appreciation to the officers and committeemen, to whom credit is due for the week's program and entertainment.

No officer or member of a state medical association can give earnest thought and consideration to the purposes of such an organization and the far-reaching consequence of its policies without sensing the responsibilities and obligations, not only of its officers and directors but also of its individual members.

Every organized body of men owes certain specific and definite duties to the community of which it forms a part and from which it derives its protection and is enabled to function as an organization.

Medicine as a specialization in the division of labor came into existence in response to man's call for help. Man in his helplessness—in his efforts to obtain relief from pain and suffering—and in his desire to prolong his life in usefulness, created a demand for medical help. In response to this demand, medical colleges and hospitals were established in order that men might perfect themselves in the art and science of medicine.

All of our illustrious predecessors in the field of medicine, those to whom we point with pride and honor as the great leaders in the alleviation of human suffering and the prolongation of human life, have had a keen sense of the obligation they owed society and the opportunity afforded them to serve their fellow-men.

## NOTABLE NAMES IN MEDICAL ADVANCEMENT

I need but call to your attention such outstanding examples as Hippocrates, whom we delight to call the Father of Medicine, and the embodiment of his high conception of the calling of the physician in the Hippocratic oath which forms the very basis of our present code of ethics; to Pasteur and Tyndale, with their revolutionary discoveries in the field of parasitology; to Semmelweis, and our own doctor and poet, Oliver Wendell Holmes, whose untiring efforts and sacrifices laid the foundation for aseptic midwifery; to such indefatigable workers as Robert Koch in the field of tuberculosis; to Lord Lister in the field of aseptic surgery; to Klebs and Loeffler in the field of diphtheria; to Laveran and Sir Ronald Ross in the field of malaria; to the Commission to Havana under the late Major-General Leonard Wood and their work in yellow fever; to Colonel

Gorgas in his work of sanitation in the Panama Canal zone.

A mere recital of the names and a reference to the field in which these men worked calls to your minds the many problems that have been met and satisfactorily solved by the individual or cooperative efforts of those who have preceded us in the efforts to help man solve his problem—how best to conserve health and prolong life.

Other individuals and organized groups have contributed to the result in these and related fields of science and investigation which have brought about man's present condition of health and happiness.

Without in any way desiring to detract from the results achieved by other workers seeking man's betterment, we realize that new and equally important problems require our most earnest consideration. We cannot rest on our oars or be content to follow in the footsteps of our predecessors. New and changing conditions require new viewpoints and new angles of approach. Men often fail to make satisfactory adjustments in response to the demands and requirements of these ever changing conditions. The medical man is not gifted with any supernatural ability with which he can guide his footsteps so that he may be protected from the many pitfalls to be found in the course of human advancement. Only as we occasionally pause, reconnoiter or take stock, can we determine whether we are going or what is our ultimate goal.

While we point with pride and satisfaction to past achievements, we realize that new and equally important problems require our most earnest consideration. We cannot rest on our oars or be content to follow in the footsteps of our predecessors. New and changing conditions require new viewpoints and new angles of approach. Men often fail to make satisfactory adjustments in response to the demands and requirements of these ever changing conditions. The medical man is not gifted with any supernatural ability with which he can guide his footsteps so that he may be protected from the many pitfalls to be found in the course of human advancement. Only as we occasionally pause, reconnoiter or take stock, can we determine whether we are going or what is our ultimate goal.

Annual events, such as this, afford opportunity for pause and reflection and perchance for a re-survey and a redirection of our course, with the thought ever in mind, how can we best be of service to our fellow-men. What are the new problems pressing for solution and how can they best be solved?

The medical profession has never had greater opportunity to justify its existence or to minister to man's needs. The complex structure of civilization has added to our obligations and also to our opportunities. The great mass of humanity is now more than ever looking to us for help with a keener appreciation of the value of exact and scientific information. The call for information and guidance is insistent, and if we are true to our ideals and traditions we must see and meet this public demand for education in health problems. No other group of men are possessed of the information called for, and none other can meet the demand.

## HEALTH CONSERVATION PUBLICITY

The public wants facts on health conservation; they are entitled to the facts, and the medical man alone can supply them.

The aim and purpose for which the community create and maintain medical colleges is not alone

\* Presidential Address, Utah State Medical Association, Thirty-Third Annual Meeting, June 24, 1927.

curative medicine. We are asked, in return for the education conferred on us, to use our knowledge for the conservation of human life, for the promotion of human efficiency and human happiness. Efficiency and happiness cannot be enjoyed in the absence of health.

Many medical men in the past and many of us at the present time feel that we have discharged our obligations (if we admit that we have any) when we have responded to the call of the sick and have done what lies in our power to alleviate their distress.

I do not wish in any way to minimize the importance of this service to suffering humanity, nor to take from the credit due the practitioner who gives of his time and talents, often without thought of material recompense, but I do wish to emphasize the importance of responding to the call that comes to us in no uncertain language from the great mass of humanity who want to know how they can be helped to live so as to maintain a reasonable degree of health, efficiency and happiness. How to be healthy, efficient and happy, is coming to mean as much to many men as how to have a kidney or a heart lesion diagnosed and treated. The call that comes to us for a physical examination of the apparently well is but one of the new and pressing problems which we are called on not only to meet, but to foster, encourage and direct. This demand and opportunity which comes to us for a new and broader service has resulted largely from the activities of official and non-official health agencies. It is our duty to join hands with these organizations, and by directing them bring about a closer cooperation and a more unified effort to serve the public in a safe, sane and scientific manner.

There is no basic reason for differences between medical men and official or non-official health organizations—each exists in response to this same call for help coming from the same source—the great mass of humanity. We should get together, compose our differences, and with a united effort seek only the best means of bringing accurate scientific data to the solution of problems of human welfare and human happiness.

#### MEDICAL LEADERSHIP IN PUBLIC HEALTH WORK

Health organizations are established conditions. They exist in response to a public demand for help. They are factors in the complex structure of modern civilization, making for better hygienic conditions and better health, and we must accept them. We can best serve the public, as well as promote our own interests by becoming a directing force in these organizations. Doctor DeSchweinitz, past president of the American Medical Association, in a recent address, said the public could be prevented from straying down the wrong path only if the medical profession had some dignified proper method of giving out the right information in the right way. He says that the time has come in modern medicine when there must be some kind of a properly regulated publicity. The present methods are not satisfactory.

The medical man has the specific, definite,

scientific information required of a leader in this movement. So long as he uses the information acquired in a privately endowed or a publicly supported educational institution for professional gain or profit, and does not use it for the uplift and benefit of his fellow-men, he is not living up to the high and noble ideals of the profession, nor is he repaying his obligation to the community which educated him. His education has been acquired through his own efforts, it is true, and he has paid a nominal fee for his tuition; but the biggest factor in his education—the opportunity for acquiring this information—was made possible by the community. For this he is greatly indebted and holds a trusteeship for the proper formulating and carrying out of plans for individual and community health education. This trusteeship must be sacredly discharged. If we fail in this we not only miss an opportunity for real service, but we fail to take advantage of an opportunity to bring about a closer personal contact and a more intimate friendly relationship with our patients, which is so important if we are to be of most service to them.

The work being done in the field of the pediatrician where the united efforts of boards of health, lay organizations and the medical profession are being directed to health conservation, or keeping the well baby well, shows very definitely the trend of civic medicine.

The greater part of the increase in the span of life in recent times has resulted from these efforts.

Here we see the three forces—official health organizations, lay organizations, and medical men working in harmony for the welfare of the baby.

These same forces, strengthened by the efforts of departments of education, are now pushing the problem forward to care for the preschool child, a field until now much neglected. Remedial defects are to be remedied, the child is to be protected by inoculation and vaccination against communicable diseases, and in every way possible prepared to fit into the field of keen competition, so characteristic of our times.

The child is coming into his birthright.

We rejoice in these accomplishments and wish those directly interested godspeed in their efforts.

In the dental field like efforts have produced like results, until now the public call for help has outdistanced the dental profession and dental clinics have had to be set up by boards of health or departments of education to care for the baby teeth. These clinics are established in response to a demand for help only when the dental profession fails to meet an insistent demand.

In the field of general medicine tendencies are in the same direction. Official and non-official health organizations are using their every effort to educate the general public in health conservation. The American Medical Association through its officers and committees, particularly its Bureau of Health and Public Instruction, the American Society for the Control of Cancer, the American Foundation for Health, the Woman's Foundation for Health, the Gorgas Memorial, and many other organizations, are stimulating ac-

tive interest in health education. As a result of these efforts, we find in the daily press and in current periodicals articles treating in a scientific and dignified manner, various phases of the better health movement. We should avail ourselves of these various agencies at our disposal to facilitate public education on health problems. The daily press is not only willing but anxious to publish any worthwhile authentic health information of general interest.

#### CENTRAL PUBLICITY BUREAUS

Headquarters of the A. M. A. has become a recognized source from which much press news of interest is obtained or verified. If state societies could have a central bureau from which the local press could either obtain or verify news items of real worth, much good might be accomplished. This same central bureau should be authorized to obtain from reliable authorities material suitable for public lectures, to be delivered before groups or organizations, asking for or interested in general health problems. These lectures, or talks, should go out as either prepared by or sponsored by this central bureau. Talks suitable for broadcasting should also be prepared or sponsored by this same bureau. In having these articles prepared, sponsored or authorized by this central bureau, little or no chance is afforded for personal propaganda and the public is given well-authenticated definite facts on health problems, or told where reliable and worthwhile information can be had. These prepared or authorized talks would contain the facts thought to be most worthwhile, and when given under the authority of the state society would carry much more weight to the listeners than if prepared by a local man, and the organized profession, as well as the individuals composing it, would be put in closer touch with the public.

This central bureau could keep in touch with our colleges and universities, churches and school systems, clubs and other organizations, and make use of such facilities as they have to offer for well-directed health education. Much more of real value will come to both the profession and the public from directing these well-meaning efforts to satisfy a call for help than by simply opposing them or forcing them out of the field. Every well worthwhile effort at conservation of human life or human energy should receive support and proper direction from the medical profession.

The medical man is by education and training fitted for membership in and a directing force of the various welfare organizations. These organizations have as their purpose the welfare of the various social misfits; in all of these groups there is a considerable amount of physical or mental illness which accounts for much of their particular maladjustment. Many of our social-minded citizens from other callings are giving of their time and their best efforts to the solution of the problems involved in these groups. Medical men do not avail themselves of the oppor-

tunity to serve on their boards where they could be of the greatest help in directing the efforts where medical problems are involved. President Coolidge, in the opening meeting of the recent A. M. A., said: "No one can doubt that if humanity could be brought to a state of physical well-being many of our social problems would disappear."

The close human contacts secured by this means would give us a viewpoint which many of us do not have at present, and I am sure would enlist our support in securing better facilities for handling many of these misfits who are so much in need of our help. The welfare of the individual and the community is the sole reason for the existence of the medical profession. We not only hinder our own progress but we impede the progress of civilization when we hesitatingly stand at the crossroads afraid to make the readjustment necessary to fit in with the changing times and conditions. The doctor should and must furnish the laity with safe, sane and reliable information on matters pertaining to both physical and mental health.

We fail to realize, or are unwilling to admit, that the various cults exist in response to the same call for help which is responsible for the existence of the medical profession. We marvel that individuals with little or no foundation in the fundamental sciences, and with only very abbreviated courses in some special lines of manipulation or adjustment, can sell their wares to the public. Can it be because we have not taken the public into our confidence and given them full and reliable information as to what we have to offer in the way of help? Is it because we in our specialization see the pathologic process only and fail to see the man? It is said on good authority that seven out of every ten patients coming to us for help need, besides medical or surgical treatment as such, some social readjustment or emotional relief. The Boston Associated Charities finds that thirty-six out of every fifty persons on their list is in need of some psychiatric treatment. Are we functioning as healers of the body only and not as healers of the soul? Dr. Nicholas Murray Butler, in a recent address, said: "The power of personality, the power of human sympathy and understanding and contact are something without which mere scientific knowledge and scientific skill must always be relatively helpless in dealing with human beings."

There surely is a call and an opportunity for help from 15,000 to 20,000 children in the United States die every year from diphtheria; when 30,000 to 40,000 individuals in the United States die from appendicitis; 100,000 die from cancer; and the cardiovascular and renal diseases are steadily on the increase. It is said that one-third of the present deaths could be prevented or postponed by present known methods, if rightly used.

Not all of this appalling sacrifice of life is from lack of information on the part of the medical profession, nor is it due to indifference on the part of the public. The principal reason is that

we of the medical profession have not educated the public to the necessity for early diagnosis and treatment by well-qualified men.

#### PERIODIC HEALTH EXAMINATIONS

The periodic health examination is the foundation of every health program, and medical men should assist in every way possible to educate the public to its importance as well as to the fact that the family physician is well qualified to make the examination. If we fail to make use of our opportunities in this line, we are apt to see commercial agencies take over this work, as they are already doing, and we will be required to serve as their hirelings.

The public have made possible our training. Are we repaying our obligation to them? Progress is made by trial and error, and we seem willing to let the "dear public" progress in this way. We forget that we are the recipients of all that has been learned in the school of medical experience, in past ages of trial and error, with its incalculable human sacrifices. We are remiss in our sense of duty if we fail to impart to the public this knowledge accumulated through the ages, and which we have come into possession of through their efforts in our behalf.

The plea that I make is for a better appreciation on the part of the medical man of his civic obligations. Because of his special training he is qualified for leadership in all movements having as their purpose better health, physical or mental. All well-meant public health movements, official or non-official, should receive his support and he should be a directing force in shaping their activities and in securing cooperative efforts.

The education of the public in physical and mental health should be made a business proposition with the organized medical profession.

Are we too much concerned with personal interests and too little concerned in human welfare? The practitioner of medicine should be a teacher and an educator as well as a healer of ill. He should see his greatest opportunity, as well as his greatest obligation, in prevention rather than in cure.

Let me quote from an address of past President Wendell C. Phillips delivered before the House of Delegates at the recent meeting of the A. M. A.:

"The medical profession should throw off its mask of reticence and its shrinking attitude toward reasonable publicity concerning health education. Professional policies narrowly conceived can never successfully oppose the rightful interests of the public. It is time to strike the shackles not only from the shrinking attitude of the medical profession toward the public espousal of educational programs, but also from its attitude toward the lay press, the radio, and great assemblies of truth-seeking people. The physician has no right to conceal from non-medical readers the great body of news of the highest importance which is his to communicate."

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#### LYMPHOBLASTOMA \*

By HAROLD B. THOMPSON, M. D.  
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**L**YMPHOBLASTOMA is a term of fairly recent origin and used to cover a number of affections previously described under various names as Hodgkin's disease, anemia lymphaticus, pseudoleukemia, aleukemia, lymphadenoma, Banti's disease, malignant lymphoma or lymphosarcoma. Modern writers tend to include these various clinical diseases under the name lymphoblastoma and to consider each variety a different clinical manifestation of the same primary condition. True leukemia has been included under the same terminology by some authors, as several cases apparently of true Hodgkin's disease have been observed to develop in their final stages, clinical findings characteristic of leukemia. Other writers claim a distinct difference between the more or less benign forms of the disease, and those with definite malignant manifestations, as malignant lymphoma and lymphosarcoma. It certainly is very difficult to draw a definite dividing line between these two groups, and it appears more plausible to the writer to explain the different clinical course by a variation in virulence of the disease itself or in the susceptibility of the patient.

#### FIRST CASES DESCRIBED

Hodgkin first described a series of these cases in 1832; since this time, and especially during the past twenty-five years, many writers have added much to our knowledge of this interesting condition.

Osler's definition of Hodgkin's disease is "an affection characterized by enlargement of lymph glands and spleen, with formation in the liver, spleen, and other organs of nodular growths and associated with a secondary anemia without leukemia."

The disease frequently starts in the cervical glands and in such cases may be preceded by inflammatory irritation of the throat. Its true nature is unknown; but seems most likely to be infectious in origin. The condition may also start in the abdominal lymphatics; such an ascending involvement some writers claim to be usually more malignant in character, following the clinical course of lymphatic sarcoma rather than the more benign form of Hodgkin's disease.

Histologically this condition presents a fairly characteristic picture, with proliferation of the endothelial and reticular cells, formation of connective tissue and lymphoid cells and the presence of characteristic giant cells and eosinophiles. It is not the purpose of this paper to recite the ordinary symptoms and course of the disease, but to bring to your attention some of the unusual manifestations and to stress the fact that it is of more common occurrence than usually considered.

#### CASE REPORTS IN LITERATURE

From the literature I have gathered several very unusual forms of the disease. C. A. Hedblom in

\*Read before the Radiology Section, California Medical Association, at the Fifty-Sixth Annual Session, April 25-28, 1927.

*Surgical Clinics of N. A.*, 1926, reports a case with splenomegaly but without any lymphatic gland enlargement. The disease was characterized by such extreme anemia and leukopenia that several transfusions were required before a splenectomy could be performed, under a diagnosis of splenic anemia. Two months after the operation lymphatic glands became palpable for the first time. The diagnosis of Hodgkin's was then made on section of one of the glands removed. The patient, after a stormy convalescence complicated by a subphrenic abscess and empyema, recovered from the operation; there was considerable improvement of the blood picture, but no apparent effect on the course of the Hodgkin's disease. George W. Holmes and Richard Dresser, in *Radiology*, July, 1926, reviewing the literature up to that time, reported twenty-two cases involving the gastrointestinal tract; twelve of these involved the stomach. All of these cases simulated carcinoma, and a diagnosis could not be made before biopsy. Eight additional cases involving the stomach were reported by these authors under the following classification:

1. Generalized glandular enlargement with secondary gastric involvement.
2. Primary involvement of the stomach.

The x-ray appearance in these cases could not be differentiated from carcinoma, and it is highly probable that some of the remarkable improvements recorded from radiation in abdominal carcinoma may be ascribed to our inability to differentiate the two lesions roentgenologically.

Verne Graber in *American Heart Journal*, June, 1926, reports a case of acute Hodgkin's disease in which the vagus nerves underwent degeneration from pressure of enlarged mediastinal glands and thereby caused paroxysmal tachycardia. Dresser, in the *American Journal of Radiology*, June, 1926, reports ninety-five cases of lymphoblastoma, four of which apparently involved the sternum primarily and showed no other demonstrable lesions. The photographs in these cases showed enormous disfiguring enlargements of the sternum. Holmes in the *American Journal of Radiology* reports numerous unusual manifestations such as lymphoblastoma of dura, of jejunum, and one case involving the conjunctiva with no other apparent lesion. Pfahler reports a case of sacroiliac involvement, and Parker a case of localization in the vertebral bodies, simulating tuberculosis or metastatic carcinoma. Minot and Isaacs, writing in the *American Journal of Medical Science*, August, 1926, report that gastrointestinal symptoms were the first symptoms complained of in 25 per cent of 477 cases, and were the early and severe symptoms in 20 per cent of cases. Some secondary symptoms—and not uncommon—are caused indirectly by pressure, such as jaundice by pressure on biliary ducts or infiltration of liver, glycosuria by pancreatic involvement, pains in the legs by pressure on lumbosacral plexus. The latter may be an initial and severe symptom. Genitourinary symptoms due to obstruction of ureters or kidney involvement are usually late. Pigmentation simulating Addison's disease may result from suprarrenal involvement. Itching, pruritis, and various

other skin lesions are quite common, appearing in about 15 per cent of cases.

#### LIFE EXPECTANCY

Minot and Des Jardins in *Radiology*, 1926, offer some interesting facts regarding life expectancy in lymphoblastoma. Of 477 cases included in their report 401 were dead. The average duration of life was 2.76 years after onset of symptoms; about 10 per cent of the cases survived for more than six years. True Hodgkin's disease began most frequently between the ages of 20 to 24. The next most frequent age period was 35 to 40; however, most of the cases developing late were some other form of lymphoblastoma and in general were of the more malignant variety. The average life expectancy in true Hodgkin's is three years and two months; in lymphosarcoma it is two years and four months. This small difference in expectancy hardly warrants a distinction between the so-called benign and malignant forms of the disease.

#### TREATMENT

Practically the only drug having any influence on the disease is arsenic, and its effect is very unreliable. Some form of radiation therapy certainly produces remarkable temporary palliative effects; however, a comparative study of a large number of cases, treated and untreated, fails to show any definite increase in longevity by such therapy. The effect of radiation in reducing glandular enlargement in this condition is so marked as to be practically diagnostic. Diagnosis through biopsy is not feasible in all tumors; if such a tumor fairly melts away under radiation, it most probably is some form of lymphoblastoma.

It was my good fortune to have with me in consultation in six of my own cases, Doctor Yates of Milwaukee, while on a visit to the coast about three years ago. His routine procedure in these cases is first, to remove every possible focus of infection, as teeth and tonsils; this is done whether any definite disease can be located there or not. Secondly, to remove surgically as much hyperplastic lymphoid tissue as is possible. The spleen is removed, as this is the largest mass amenable to surgery; this is followed by an extensive removal of cervical, axillary and inguinal glands. My experience cannot be compared to his, but I could never adjust myself to the reasonableness of such a procedure. Surgical removal of glands is limited to the superficial or external lymphatic system; it cannot be done extensively in either abdominal or mediastinal involvement; such partial removal is distinctly palliative. Radiation, on the other hand, can reduce the glandular enlargement in both operable and inoperable sites. With a life expectancy of only three years, regardless of method of treatment, such a prolonged and extensive surgical program must show more decided advantages to warrant its general application. I am quite in accord with his views on eradication of possible foci of infection, but only if there can be a reasonable relationship of cause and effect.

The diet should be wholesome, easily digested, and rich in such vitamins as are present in fresh vegetables. Sunlight is also very beneficial even to the extent of exposing the entire body surface to

direct sunlight for an increasing period of time daily. For the same reason ultra-violet light might be useful. My own conviction, however, is that the same results may be obtained by x-ray, and much more efficiently.

#### COMMENTS ON TWENTY-FOUR CASES

During the past five years I have had twenty-four cases of lymphoblastoma, including the leukemias. The average age was 33 years. Of this number, one was in the first decade of life, two in the second, six in the third, five in the fourth, seven in the fifth and three in the sixth. All of the leukemia cases were over 35 years of age and most of them over 45, while the true Hodgkin's cases were mostly in the third decade. These figures tend to show the greater liability of leukemia symptoms if the disease begins later in life. The only case of true lymphosarcoma was first noticed as an enlargement of the inguinal glands, while practically all cases of true Hodgkin's cases first developed enlargement of cervical nodes. This tends to confirm the idea that infection entering through the tonsils is more likely to be less malignant than the infection through the abdominal route.

So many of the cases were lost sight of after receiving only a short course of treatment, that my figures regarding length of life are worthless. At least five of these cases had been previously treated for tuberculous glands, and one for syphilis.

The highest white count was found in a case of lymphatic leukemia, the white cells reaching a total of 1,118,000 with 89 per cent lymphocytes. The lowest red count, 250,000, was in another case of lymphatic leukemia.

Between these extremes were all grades of variations in both the white and red count. In my experience the differential count is fully as important as the total count. Several cases at the beginning of early general systemic symptoms in the intervals between successive series of x-ray treatment showed a relative increase in lymphocytes before any change was noted in the total white count.

#### REPORT OF TWO CASES

I wish briefly to report two case histories:

The first, Mrs. A., age 45, is presented because she showed an unusual reaction to x-ray therapy. She had noticed gradual enlargement of cervical glands for several months, but gave no other signs or symptoms. Physical examination was entirely negative except for the rather large cervical glands on both sides and moderately enlarged axillary glands. Three days after a very small initial dose of x-ray to one side of the neck, these glands showed a marked increase in size, were tense and very painful. The dose was then cut in half for the opposite side; this also caused a considerable increase in size, but not so marked as formerly. As the axillary glands were so much smaller, the original small dose was applied to them. Only a slight enlargement of the axillary glands followed. However, even the small amount of x-rays which filtered through the shoulder girdle and reached the cervical glands was sufficient to produce a marked increase in the swell-

ing of these glands. After the first reaction all of the glands gradually subsided to practically normal at the end of one month.

The second case, Mr. C., age 24, shows an unusual distribution of metastatic lesions in lymphosarcoma, as well as the remarkable local effects of radiation. History was essentially negative except for tonsillitis and tonsillectomy in 1924. In November, 1924, there appeared in left groin a small tumor mass which gradually enlarged. Three months later there were noticed several small subcutaneous nodules in the back and also a swelling of one foot. In July, 1925, eight months later, the inguinal gland, which was then the size of a small orange, was excised and a diagnosis of round-cell sarcoma was made on microscopic examination. At this time he exhibited a general adenopathy with numerous subcutaneous nodules in the scalp, on the back between the scapulae, and also a tumor mass developing in the right foot. Another large mass was removed from the back at about the same time. X-ray treatment was instituted, especially over the swelling of the foot. This tumor growth had spread the metatarsal bones apart and caused him to use crutches. A few treatments caused this tumor and numerous superficial nodules entirely to disappear. The deep pains in the back, however, increased in severity and there was gradual loss of weight and strength. After three months under my care he went East and received treatment under Doctor Coley and also Doctor Scott. He died in less than a year from the onset of the symptoms.

This case illustrates the unusual distribution of the metastases—subcuticular nodules especially between the scapulae, nodules in the scalp and a large tumor between the metatarsal bones of the foot. It also illustrates the remarkable improvement which can be obtained by x-ray therapy; improvement not only in the local masses specifically radiated, but also on distant tumors, part of the general systemic involvement. In spite of this specific improvement there was little, if any, influence on the course of the disease.

#### CONCLUSIONS

1. Lymphoblastomas are of more frequent occurrence than usually considered.
2. Earliest manifestations may occur in practically any portion of the body.
3. Any or all symptoms vary between extreme limits.
4. There is no definite dividing line between the variously named clinical diseases included in this group.
5. Life expectancy is probably not altered by treatment, although there are such wide variations in the duration of the disease that definite conclusions are not warranted.
6. X-ray is practically the only remedy aside from general measures which has a definite influence on the disease.

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## BACKACHE DUE TO SEMINAL VESICULITIS AND PROSTATITIS\*

By MILEY B. WESSON, M. D.  
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DISCUSSION by Thomas A. Stoddard, M.D., San Francisco; F. S. Dillingham, M.D., Los Angeles; R. Campbell Begg, M.D., Wellington, New Zealand; H. A. Rosenkrantz, M.D., Los Angeles; Robert V. Day, M.D., Los Angeles.

NO type of pain has caused the medical profession more embarrassment than backache, or diverted more of our patients to the various pseudomedico-religious cults, even though in the great majority of cases backache means little more than a short period of physical unhappiness easily remedied by any placebo such as kidney pills, porous plasters, electric apparatus or massage. A few years ago the court calendars were clogged with "railroad spine" cases and miraculous recoveries followed their settlement—the "Gold Cure." Now, employers of labor and carriers of insurance are concerned about backache more than any other lesion because of the possible long periods of disability that follow trivial injuries.

### BACKACHES IN RE INDUSTRIAL INSURANCE

With the inauguration of compulsory compensation insurance practically all salaried people have been included within the provisions of the law. Consequently all doctors are being forced to become interested in industrial insurance if they intend to continue in the private practice of medicine.

Because of the rules of the all-powerful labor unions prohibiting physical examinations before employees are hired, workmen are accepted as 100 per cent fit. Following a slight injury or strain an arthritis of the spine recurs or develops, secondary to a focus of infection that may have been present for years. The man then becomes a charge not for weeks but for months, or years. The employer or his insurance carrier pays compensation, hospital fees, doctors' bills, physiotherapy, etc., so that back cases represent a very important outlay of expenditures. The bony changes that have taken place in the spine over a period of years may not be discovered until after the damage is beyond repair, but if the focus of infection that was responsible for the arthritis can be eradicated the pain will disappear and the man, although not "cured," can be put back to work in as good condition as before his "accident." It has been found that a large proportion of the cases of low backache have an infection of the prostate and seminal vesicles and that as soon as free drainage is established the backache disappears. The term prostatitis is commonly used in the literature to include seminal vesiculitis. I want to emphasize the fact that although the primary infection is in the prostate it is the secondarily

infected seminal vesicles that are responsible for the metastatic infection.

### STATISTICS

The series of statistics in the literature are of questionable value because of their meagerness both as to numbers and details. As yet no medical director of an industrial accident commission has published an analysis of the thousands of cases that have been thoroughly studied and recorded in his files. During the past five years it has been my privilege to see as a consultant a large number of cases of low-back pain that had not responded to the routine orthopedic treatments and physiotherapy, and consequently were being investigated as to the question of focal infections. This paper is based upon that experience, as well as a review of the literature of the past twenty years.

### EARLY HISTORY

The possibility of non-venereal seminal vesiculitis as the focus of infection in cases of low-back pain is not generally appreciated by the industrial surgeon. This is easily understood when it is realized that scientific urology is only a few decades old. Lognean, in 1815, described chronic inflammation of the prostate as a complication of gonorrhea, but other diseases of the prostate were ignored until Lallemand, in 1836, called attention to a category of maladies, previously attributed to mental and nervous diseases, and noted the improvement of these neurotics after treatment of the prostate and seminal vesicles. Following the publication by Young, Geraghty, and Stevens twenty years ago of a detailed study of 358 cases of chronic prostatitis, the general practitioner began to be interested in the disease. However, it was not until the comparatively recent illness of a President that the word "prostatitis" was considered sufficiently respectable to occupy the head lines of the front page of the newspapers.

### ETIOLOGY

Even today most people believe that all prostatitis and seminal vesiculitis are of venereal origin. However, prolonged ungratified sexual desires, excessive physiological or abnormal sexual indulgence, with the attendant local engorged condition is an important etiological factor in all non-gonorrheal and most gonorrheal prostatitis cases. Sexual perversions, the practice of coitus interruptus, excessive masturbation or the frequent indulgence in the popular petting parties of the day are of more importance than gonorrheal infections as causes of prostatitis. In rare instances chronic prostatitis and seminal vesiculitis occur as a complication of general septicemia and other infectious diseases, and it may follow local trauma such as repeated vigorous prostatic massage, bicycle riding, or habitual sitting on cold marble steps. It is probably for this last reason that prostatitis is so prevalent in Baltimore. Opinions differ concerning the longevity of gonorrheal organisms in the seminal vesicles; however, second-

\*Read before the Urological Section of the California Medical Association at the Fifty-Sixth Annual Session, Los Angeles, April 26, 1927.

any invaders, with which the industrial surgeon is concerned, may be present for years.

Of course the question of posture as a factor is important. When we become tired, depressed or weak, we slump and assume the former attitude of our remote ancestors. There is a loss of muscle tone in the back, hence a predilection for pain in that region due to the added strain, and referred pain from a prostatitis augments this complaint.

Immediately after the publication of Billings' work on focal infections the subject became a rival of neurasthenia as a blanket to cover carelessness, loose thinking, and other clinical sins. The patient who had no clear-cut complaint was no longer casually treated for nervousness, but instead had to be very firm in order to keep his teeth, tonsils, appendix and gall bladder, and yet seldom did one have his prostate palpated. The inevitable reaction followed and now focal infections are of only casual interest to industrial surgeons. The employer of labor has only a slight acquaintance with the term neurasthenia, but "sacroiliac slip" and "sprained back" he knows only too well. The average backache is rarely primary or demands wholly the type of treatment given by the orthopedic surgeon, and only in a great while is operative interference indicated. Many sprained backs are secondary to infections of the genitourinary tract, but it is just as erroneous to attribute all to seminal vesicle infection as to say that all seminal vesicle infections are secondary to venereal diseases. Nielson, an internist, made a study of 200 patients who had a variety of complaints ranging from stomach trouble to sciatica, none of whom had genitourinary symptoms nor had had a Neisserian infection within two years, and was amazed to find that practically no prostate examinations had been made although many of the patients had been through diagnostic clinics of national reputation. Only fifty-eight of the patients admitted a previous gonorrheal infection, but eighty-five had pus in their prostates.

In the past, backache was considered a characteristic complaint of women, but as a result of the popularity of gynecologic examinations with resultant appropriate treatment this is no longer true, there now being two cases of backache in man to one in woman. Michel reported that 75 per cent of the cases of backache in men are secondary to prostatitis and seminal vesiculitis due to disturbed sexual life or the results of venereal diseases.

#### **PATHOLOGY**

Fibrositis is due to a hyperplasia of the connective tissue with exudation and proliferation of the fibrous tissue elements. This inflammatory overgrowth in the tissues of the small of the back may undergo resolution and entirely disappear if the focus of infection is attacked early and eradicated. But if the treatment is neglected it may go on to organization and formation of adhesions, and thickening and contracture of the connective

tissue. The latter is what causes the stiffness of the spinal area involved.

Prostatic or seminal vesicle diseases cause backache through referred pains; or by means of metastatic infection with resultant local fibrositis or arthritis in the lumbosacral spine, thereby causing the patient to assume an attitude in standing or walking which increases muscular back strain; consequently the static element is often directly responsible for the pain in the muscles and ligaments of the back.

#### **SYMPTOMS**

The pain in the prostate and seminal vesicles is directly due to lack of drainage, just as renal colic follows interference with the free flow of urine from the kidneys. The wide distribution of referred pains from the prostate and seminal vesicles can be rationally explained, since the innervation is entirely sympathetic and parasympathetic. Head et al. have shown that the fibers ending in these organs arise from the tenth dorsal to the third sacral segments, so it is possible for prostatic and seminal vesicle pain to be referred to regions innervated by any of the corresponding spinal nerves. Because of a psychological error of judgment the diffusion error is accepted by the patient and the pain is referred to the surface of the body instead of to the viscera actually affected.

In Young's series of cases low lumbar back pain was the predominating symptom. One of the characteristic differential points of seminal vesicle backache is that the pain is made worse by pressure on the structures at fault, but back motions are not limited until arthritis develops. Particularly important in the lower back is the presence or absence of tenderness on pressure in the area where the pain is felt. If the two coincide it suggests that the diseased condition is localized, otherwise we are probably dealing with referred pain. Pain represents irritation of the sensory nerves supplying the affected area, or the nerve which has some connection with it. The seat of pain and the cause of that pain are not necessarily in the same situation. Infections may cause symptoms for years before x-ray changes will be manifest. Furthermore a spine that shows marked hypertrophic changes will often give no symptoms following the clearing up of the responsible focus of infection.

#### **DIAGNOSIS**

Notthafft first called attention to the fact that pus often does not make its appearance until from the second to the fifth massage, and indeed pus and normal secretion may alternate in a few cases. Long-standing infections are sealed in, and take several treatments to break down the barriers and release the pus and bacteria.

The average practitioner gains just as much accurate information about the prostate from a casual rectal palpation as does the ordinary urologist about the heart from looking at an electrocardiograph tracing. The fact must be emphasized that prostatic massage does not consist merely of inserting a gloved finger in the rectum and squeezing or rubbing vigorously. This was impressed upon me about ten years ago, when

one of my colleagues, who devoted "special attention to urology," told me that in six years he had never knowingly palpated a seminal vesicle but had merely massaged blindly on a full bladder and generally found that by having the patient void after the massage he had obtained secretion. This incident has been responsible for making me hesitate to accept all prostate reports, and therefore I was interested in the following paragraph from a letter by Charles Minor Cooper, clinical professor of medicine, Stanford University, published June 16, 1923, in the *Journal of the American Medical Association*: "For some years I had recognized that my finger was not long enough to enable me to elicit satisfactory findings concerning the condition of the seminal vesicles, and I had been in the habit of depending on the well-recognized genitourinary specialists for this information. It finally occurred to me that perhaps the physical limitations of these specialists might similarly be a bar to their efficiency in this respect, so I sent a number of these patients to a surgeon whom nature had endowed with unusually long fingers. The results have been highly gratifying. Many patients who previously had been examined with negative results by different well-trained urologists obtained drainage of hitherto unrecognized, pent-up, infected material, with consequent relief from their fibrositis."

#### TREATMENT

Straub says the doctor who treats the backache without clearing the prostate or other sources of toxemia is as guilty as a quack. There is perfect

agreement that the treatment of a patient who has a small stone in the ureter or a chronic seminal vesiculitis with measures to cure a local backache is inexcusable. It is true that the prostatitis and seminal vesiculitis may get better or the stone may pass and with it the backache may disappear in spite of the mistaken diagnosis and treatment; but where does such a practice differ from that of the charlatan? The average internist does not follow the teaching of the late Sir William Osler, to make a rectal examination on every patient. A microscopical examination of the urine in every case of backache should be routinely done, and if the centrifuged second glass of urine contains pus or organisms the genitourinary tract should be investigated for a focus of infection.

The treatment of prostatitis and seminal vesiculitis is as stereotyped as that of bleeding gums. After the dentist gets through with vaccines, fancy applications and explanations, he reverts to the use of a scaler, scrapes out the "tartar," and the gums heal. Sealed pockets of pus in the prostate and seminal vesicles must be drained. Seminal vesiculotomy was hailed at one time as a cure-all, but unfortunately all crypts cannot be opened and a pinpoint focus will continue to cause trouble. Vaccines, intravenous medications, etc., all have their place, but massage still remains the keystone of the treatment of prostatitis and seminal vesiculitis, and at best it is a non-surgical inexact procedure.

However, the individual with the backache must not be lost sight of because of the discovery of

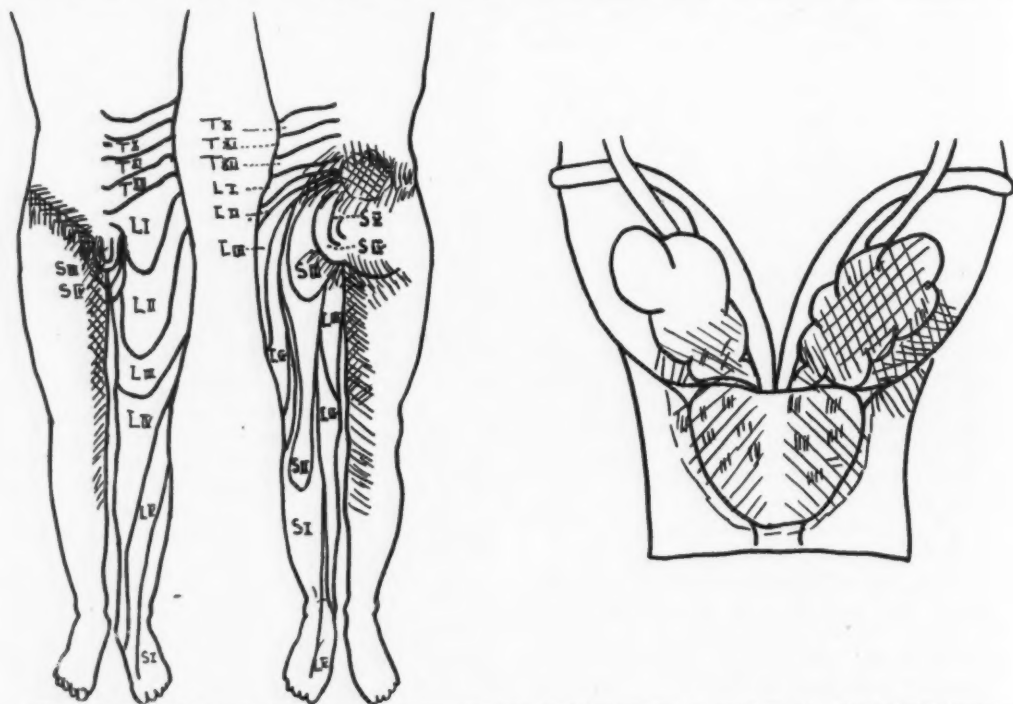


Fig. 1—Case 1. The left side shows the segmental skin fields according to Head et al. The painful areas described as "sprained back, sprained tendons, and rupture" correspond to the skin areas of the first and third lumbar nerves. The prostate was enlarged and contained indurated nodules. The right seminal vesicle was markedly involved and was pulled downward and outward by dense adhesions. The severity of pain and amount of induration is indicated by the shading.

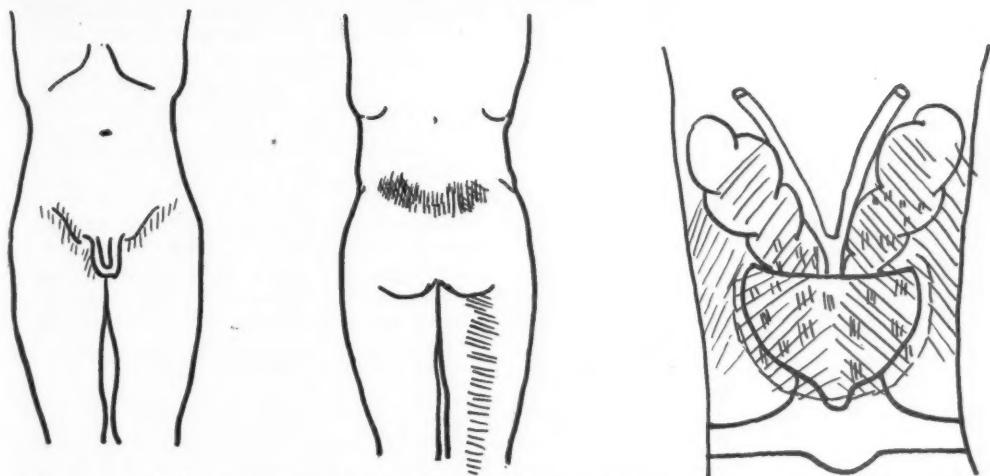


Fig. 2.—Case 2. The patient complained of "lumbago" and "sciatica." The areas of pain indicate that the (right) first lumbar and second sacral nerves are involved. The prostate and right seminal vesicle are the sources of infection, and all pain disappeared as soon as drainage was established.

his seminal vesiculitis. If the man is returned to work early, psychology and suggestion are of importance. A friendly interest and a constant effort to stimulate the individual to make an attempt to do more without too much disparagement of his complaint is very important.

The following brief case reports of backache characterize some of the complications that follow non-venereal prostatitis and seminal vesiculitis.

#### CASE REPORTS

CASE 1—(No. 390), S. O. R., 45, married, laborer, referred November 6, 1924, by Dr. L. O. Kimberlin to determine if a focus of infection was present that might be responsible for the complaints of sprained back, sprained tendons in the right leg, and rupture, the orthopedic examination being negative (Fig. 1). He gave a history of helping to lift a scaffold high above his head seven days before. During the maneuver he noticed a catch in the right leg, in the back, and in the right groin.

The personal history was unessential except that although he denied all history of venereal diseases he admitted excessive masturbation as a youth, the indulgence in frequent unsatisfactory petting parties as a young man, and coitus interruptus during his married life. For a number of years he had suffered from an indefinite pain in the lower abdomen which had been diagnosed as "stomach trouble." Examination: The urine contained shreds, pus, and bacilli. Both inguinal rings were dilated, but there was no impulse on coughing. There was a small left varicocele and bilateral, enlarged, tender spermatic cords; pain over the sacroiliac region and extending down the inner side of the thigh from the right Poupart's ligament to the knee. The prostate was large, tender, and contained many indurated nodules on deep palpation. The seminal vesicles were enlarged and pulled downward and outward by adhesions, the right being the most prominent. The expressed secretion contained no spermatozoa but masses of pus, and a stained specimen showed bacilli. When his prostate was massaged he complained that it felt as if a hot iron extended through to the groin and then the pain spread down to the knee, the back pain being aggravated at the same time. On the following day he reported that his pains had very much decreased. After the prostate had been massaged a few times all symptoms disappeared and he returned to his regular duties.

CASE 2—(No. 64), H. R. C., 25, divorced, bank teller, referred by Dr. H. H. Markel, August 9, 1926, because

of pain in the lower back extending down the course of the right sciatic nerve (Fig. 2). At times he appeared to lose control of his leg, and it had a tendency to buckle under him so that he feared to walk without a cane. He grew progressively worse under appropriate orthopedic treatments, so a search was started for a focus of infection.

There was no history of venereal diseases or excessive masturbation. This patient had been examined April 25, 1922, preceding his marriage, and was found to have a normal seminal vesicle and prostatic secretion. He was highly sexed and married a frigid woman. Throughout the four years of his married life he was permitted to have intercourse once every three months and during the intervening periods suffered from frequent prolonged genital engorgement. Examination: Urine contained shreds in the first glass, the prostate was larger than normal, with indurated nodules throughout; the seminal vesicles were enlarged and pulled downward and outward by adhesions, and deep palpation was exquisitely painful. The expressed secretion contained no spermatozoa, but was 100 per cent pus, some of the clumps apparently being casts from the vesicles.

The treatment consisted of routine massage, irrigations, instillations, etc., and within ten days all pain had disappeared and the cane was discarded; a few weeks later the belt was laid aside, and at the end of two months he drove an automobile 900 miles in thirty-six hours without any discomfort.

CASE 3—(No. 740), C. L. R., 34, single, lawyer, complained of pain in the back and groins of eleven years' duration. There was no history of venereal diseases. As a youth he practiced masturbation in moderation, and this was followed by a practically continent sexual life. Eleven years ago, following a "wine, women, and song" party, during which he had intercourse once, he developed urgency, dysuria, strangury, pain in the groin, and back. He consulted an eminent eastern urologist, who found nothing pathological. Two years later, following a similar celebration, the same symptoms returned. He had several "complete" physical examinations which disclosed no foci of infection other than impaired sphincters, which were surgically drained without any effect upon the arthritic symptoms. He was ordered to a hot climate, and spent four months in the Arizona desert without appreciable effect.

Because of the association of bladder symptoms and backache he still was unconvinced, despite the numerous negative urological reports that he did not have a focus of infection in his seminal vesicles. Upon his return from the desert vacation, as a matter of diagnostic interest he had intercourse and there was a

flare-up of his arthritis and a recrudescence of all of his former bladder symptoms. Examination: Urine was negative except for shreds in the first glass. Prostate was large, tender, and contained indurated nodules on deep palpation. The seminal vesicles were pulled downward and outward by adhesions. The expressed secretion contained masses of non-motile spermatozoa and large clumps of pus lying between the strands of mucus from the seminal vesicles.

Following massage the back symptoms have practically disappeared, but at intervals he still is conscious of his left vasitis.

CASE 4—(No. 555), C. E., 59, married, retired clergyman, referred by Dr. Wallace I. Terry on August 28, 1925, because of acute retention of urine precipitated by an automobile trip. He was wearing a steel back brace to which he had just been promoted from a plaster cast, and stated that for the preceding seven years he had been constantly in the care of various orthopedic surgeons. Furthermore he had long noticed a direct relationship between the back pains and his urinary disturbances. He denied a history of venereal diseases, but admitted excessive masturbation before marriage, and following the arrival of the desired offspring he practiced sexual sublimation with the resultant loss of all sexual desires. Examination: There was an infected residual urine secondary to a benign prostatic hypertrophy and the prostatic secretion contained 100 per cent pus. A perineal prostatectomy was done with immediate and apparently permanent cessation of all backaches. The operative incision evidently drained the foci of infection responsible for the backache. Incidentally, a year after his operation he reported a youthful renewal of his long-lost sexual powers, which eventually resulted in his seeking advice as to a presumable pregnancy.

#### SUMMARY

1. With the growth of compensation insurance new treatments came into vogue. Whereas in the past the workman with the lame back represented either a charity patient or the source of an expert witness fee, in case the damage suit was won, he is now the source of considerable income primarily because of the physiotherapy. While his back is daily exposed to the rays of the Alpine lamp, a walled-off infection in his seminal vesicles continues to pour forth toxins and the arthritis progresses. What the average back case needs is more diagnosis and less physiotherapy.

2. The prostate and seminal vesicles should be carefully examined in every case of backache. The liquid secretion ordinarily expressed by rectal palpation is wholly from the prostate, that from the seminal vesicles appearing as a viscous plug made up of mucus and spermatozoa, the motility of the spermatozoa varying indirectly with the virulence of the infection.

3. The acute infection invaded the prostate and later extended to the seminal vesicles. The original organism probably died out or was replaced by secondary invaders. The ordinary infection disappears spontaneously if there is drainage, and for that reason it is not unusual to find a normal prostate secretion and a plugged vesicle filled with a virulent infection.

4. Pain in the back and groins is a common complaint, and too often a diagnosis of sprained back and industrial hernia is recorded instead of seminal vesiculitis and sequellae.

5. All cases of industrial backache with seminal vesiculitis should be given at least a month of treatment as a therapeutic test.

6. Backache due to prostatitis and seminal vesiculitis is often temporarily aggravated by mas-

sage through the lighting up of a latent infection.

7. Trauma is blameless as an etiological factor in a large percentage of cases of "traumatic backs." Two elements must be investigated in every alleged traumatic backache: (1) Is there a backache? (2) Did trauma play any part in it? Industrial patients are just as prone to blame all of their aches on the last strain suffered as the average patient is to attribute his cure to the last medicine used or the last doctor consulted.

8. The patient is often the victim of false reasoning and is not a malingerer. He honestly believes that his backache of today is due to yesterday's work. He exaggerates his symptoms and he fears that if he does light work he will prejudice his claims for compensation.

9. The seminal vesiculitis was not due to the injury, but a slight strain caused an acute exacerbation and called attention to the infection. However, since the man's incapacity followed a strain the law requires that he be cared for and put back to work; not made perfect but returned in as good condition as before the strain. The orthopedic surgeon must put at rest the painful muscles, tendons, etc. Physiotherapy is of value, but the underlying cause of the trouble that exploded with the slight strain must not be forgotten. Insurance companies occasionally buy false teeth for a man because they know that cleaning up his mouth may put him back to work sooner than expected, and the plates are a good investment. The foci of infections must be eradicated be they located in the teeth, tonsils, sinuses, seminal vesicles, or what not.

10. No case of backache should be subjected to orthopedic operative procedures so long as his urine or prostatic and seminal vesicle secretion contains pus.

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#### DISCUSSION

THOMAS A. STODDARD, M.D. (490 Post Street, San Francisco)—The gynecologists called our attention to infections of the uterus and its appendages, and their relation to backache. We have seen the benefits derived by their proper attention. Now come the urologists "doing their stuff," and calling attention to the fact that infections of the male homologous organs, i. e., the prostate and seminal vesicles, can produce the backaches the females have been relieved from and that many a backache laid to industry has been miraculously cured by relieving these organs of chronic infections. Doctor Wesson has tersely and properly described the anatomy, pathology, and symptoms of referred backache from infected pelvic viscera. One of the most potent causes of persistent backache is latent infective arthritis lighted up by a back strain of more or less, and often trivial severity. The foci of infection may have been present in a subacute state for years and not recognized, or may have been thought to have been cured. Most doctors neglect to examine the pelvic viscera by reason of mistaken delicacy, or because their attention has not been called to this ever present potential region of focal infection. This prudishness has cost many weeks of suffering and hundreds of dollars' worth of loss of productive time, to say nothing of thousands of dollars spent by insurance companies in compensation and medical fees.

Back strains that do not react to rest and guarded use within the time of formation of normal scar, i. e., two to four weeks, should be thoroughly investigated for focal infection. The lower the pain the more suspicious one should be of the pelvic viscera.

Most medical men are poorly equipped or poorly

trained in prostatic diagnosis. I am no exception to the general rule; my fingers are too short. A suspicious case should be sent to the well-trained, long-fingered man, and repeatedly examined, if necessary, to prove the case negative. This is very important. I have had a number of cases cleared up by insisting on this rule even though they brought histories of negative results of examination. I am convinced that more massage of the prostates and seminal vesicles and less heat and massage to backs will give us better results.

Pelvic visceral infections often refer pain to the groin as well as to the back. When a tender seminal vesicle is found with pain referred to the back on pressure you have probably located the cause for the backache, particularly if you find no tenderness at the point of referred back pain. Tender spots and subjective pain should coincide. No case of backache should be subjected to operative procedure so long as the pelvic viscera have not been proven negative or still contain pus.

I have had numerous cases of disabling, chronic backache that have promptly responded to proper stripping and draining of the seminal vesicles and prostate.

My experience brings me in hearty accord with Doctor Wesson's statements. I wish to congratulate him on his well-written warning to the medical profession and appeal for more careful investigation of the male infected pelvic viscera.

F. S. DILLINGHAM, M.D. (320 Merchants National Bank Building, Los Angeles)—Doctor Wesson has again chosen a subject that should be of great value not only to those interested in industrial medicine, but to those interested in all branches of medicine. This paper is very thorough, and I agree with Doctor Wesson. He is to be complimented on choosing a subject which has received so little attention.

Prophylaxis is still the most important consideration in the handling of this subject; early and persistent treatment till a complete cure, and not for just the duration of the subjective or objective symptom. If everyone would follow such a course the backaches, arthritis and other complications would soon be history.

Doctor Wesson struck the keynote when he said "drainage." This can usually be accomplished by local measures; if not, operative procedures are more exact now than ever.

The posture while massaging the prostate and vesicles is very important; with the patient on his knees and one elbow, in a kneeling position on a table of the proper height, the free hand holding the specimen receptacle, the examiner's forefinger is on a line with his elbow and he can reach beyond the prostate and as high as possible on the vesicles. Regular massage should be kept up until the prostate and vesicles are free of all indurated spots, and the microscope shows the strippings free from pus. Long after cultures show the fresh strippings free of gonococci the prostate and vesicles may retain enough accompanying germs to cause all of the classical referred pains as described in the paper. Massage should be thorough but not too hard, as exacerbations and local inflammation, and epididymitis may be caused by roughness. Following a careful massage, if the patient voids and the urethra and bladder is filled with some of the newer non-irritating dyes, as described by Doctor Vecki, much time will be saved. Many mild chronic infections of the prostate and vesicles causing almost no subjective symptoms and accompanied by a moderate amount of pus in the urine will cause an albumin reaction, and with a dull ache in the back some have been told that they have kidney trouble.

The typical pains of sacroiliac slip would not confuse the picture for the urologist, but the milder cases may explain why a low backache keeps up after the prostate has responded to careful treatment.

The mental aspect is really serious and ranges from mild neurasthenia to suicide. Influenza has been a cause of infection, also the use of non-sterile instruments or the rough use of sterile instruments. Colon

bacillus infections frequently follow stasis in the intestinal tract, and it is usually a stubborn infection.

Doctor Wesson's paper should be brought to the attention of those doing periodic health examinations. A man under a five-year contract to take entire charge of a new oil field in South America, with a very heavy forfeit for failure to stay the full five years, was carefully examined and passed by the company staff of doctors, and just to be sure he was examined by his own New York doctors and passed. Just five days on the train and he came under my care with acute total retention. This is mentioned to bear out what Doctor Wesson has said as to the importance of examining the prostate and vesicles. By the way, it is surprising what little information is gained by the average doctor in examining a prostate. We have seen patients from which we could express 15 to 20 cc. of green pus called perfect.

Fresh strippings should be examined for living spermatozoa, as many apparently vigorous young men are found with all spermatozoa dead, but if the condition is recognized early enough they are cured if treatment is carried out faithfully.

To sum up, prophylaxis, early persistent treatment of the original infection, more routine examination of the prostate and vesicles, including microscopical examination of the strippings, treatment of the prostate and vesicles until all infection and induration are completely eradicated, and not only until the reflex symptoms are relieved.

R. CAMPBELL BEGG, M.D. (Wellington, New Zealand)—I was very much interested in Doctor Wesson's statement that non-venereal prostatitis and seminal vesiculitis are as common as that of venereal origin. Tropical (non-venereal) prostatitis is very common in regions of excessive high temperature. In the Upper Euphrates Valley a temperature of 137 degrees is common, and a body temperature of 116 degrees is not unusual if the man lies on his back so as to diminish by that much surface his area for free perspiration. Consequently micturition consists of ex-pelling residue composed of a few cubic centimeters of thick urine each day to keep down stone formation. If it were not for the routine note made in his diary one would forget that physiological function entirely. It is a land of bladder-stones and prostatitis.

H. A. ROSENKRANZ, M.D. (1024 W. P. Story Building, Los Angeles)—The orthopedist has for years painstakingly examined the prostate and vesicles in arthritic and focal cases, but the general practitioner has overlooked a great many of them. About ten years ago I chided a colleague for not having examined the prostate. He replied: "What? I never put my finger in the rectum." Doctor Wesson's very lucid and convincing paper has been opportune in emphasizing this routinely valuable diagnostic point. The author states that there are again as many male as there are female back cases. This statement will be greeted as timely by those who have objected to Dr. Oliver Wendell Holmes' definition of the female: "A biped with a pain in the back."

Someone has mentioned syphilis of the spine. With the rather high incidence of syphilis it is rather probable that we have been overlooking some Charcot backs and that they are not so extremely rare as we have believed.

I have encountered a number of backaches that yielded readily and solely to prostatic massage, and yet the prostatic secretion presented merely the occasional normal pus cell and no bacteria. Some of these backs become quite stiff if the massage intervals were too long deferred. What causes these backaches? Is it the reflex from an engorged congested organ or is it the absorption and local effect upon the back tissue of a perverted prostatic-vesicular hormone, the disfunction having been inaugurated perhaps by a previous gonorrhea?

I am glad that Doctor Wesson has emphasized the established fact that an infection or rheumatism in a part that has been injured does not result directly from the injury but results from an already existing

infection or toxin in the patient's body, an infection that is ever lurking to attack any place where resistance is lowered, as by an injury.

**Treatment**—Experience has convinced me that diathermy and the hollow quartz ultraviolet ray applicator are useful adjuvants in these cases. The most direct treatment is, however, the removal of the cause, and aside from the measures mentioned by Doctor Wesson I would emphasize the oft-startlingly good results that are obtained by washing out the vesicles by vasopuncture. Some time ago at the Los Angeles General Hospital I demonstrated two arthritic cases who entered the hospital in a crippled bed-ridden condition that showed immediate and very marked improvement directly after vasopuncture, and were discharged several weeks later in a thoroughly ambulatory condition with joints well loosened up. These were cases of gonorrheal rheumatism of quite long standing.

Physicians and their patients sometimes wonder why their cases do not respond more rapidly after the removal of the primary focus. They must bear in mind that a chronic knee having persisted for a long time has in itself become primary focus number two and must be treated accordingly.

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ROBERT V. DAY, M.D. (704 Detwiler Building, Los Angeles)—This paper is timely and I agree with it throughout. I want to emphasize that it is not the infection in the prostate that gives rise to metastatic infection elsewhere, but that metastatic infection arises from the concomitant infection in the seminal vesicles. There has been a superabundance of false teaching to the effect that the prostate is the guilty focus of infection. However, infection in the prostate is so often an index to infection in the seminal vesicle that it is frequently a good guide. Too often no attempt is made to distinguish between infection in the prostate and in the seminal vesicles, and the innocent prostate is given the credit for the sins of the guilty seminal vesicles. The diagnosis of vesiculitis is frequently difficult because of the mixing of the contents of the seminal vesicles with the prostatic fluid; however, if clumps of pus are found imbedded between strands of mucus containing spermatozoa it is proof positive of the presence of a focus of infection in the seminal vesicles. In the presence of an undrained focus of infection in the seminal vesicles orthopedic operative procedures for the relief of low backache are never justified.

#### ARTHRITIC JOINT PAINS AND GOUT\*

By J. EDWARD HARBINSON, M.D.  
Woodland

DISCUSSION by Philip King Brown, M.D., San Francisco; Ernest H. Falconer, M.D., San Francisco.

**A**LTHOUGH known since antiquity, gout, or uric acid diathesis, as some prefer to call it, still remains an interesting problem. Whether it is a rare or a common disease in this country is a mooted question. According to statistical reports its incidence in the wards of Cook County Hospital, Chicago, is .39 per cent. This is a little higher than at St. Bartholomew's, London, the home of gout, where the percentage is .37. At the Peter Bent Brigham the percentage of gout to total admissions is .22; lower than at Johns Hopkins, which has a percentage of .29. Between 1821-1916 the Massachusetts General Hospital shows the very low percentage of .03. What are we to conclude from these figures? They may mean either an increased incidence of gout in certain portions of the United States, or that among

\* From the Department of Medicine, Woodland Clinic. Read before the Nevada State Medical Association, Reno, September 24-25, 1926.

the many cases of arthritis a few cases of gout escape early recognition. This latter supposition is the basis for this paper, that is, if gout is not considered in the differential diagnosis of patients complaining of arthritic symptoms, it seems very probable that some early or even advanced cases may not be diagnosed.

In considering this problem let us take for example the patient who comes for relief of arthritic pains. Predominant in mind when considering the etiology is the possibility of foci of infection. Roentgenograms are made of suspicious teeth; tonsils are rigidly examined for evidence of infection or the patient is sent to a throat specialist for an opinion. If one or more possible foci are discovered it is a question which is the principal offender. If we explain the patient's symptoms on the basis of foci of infection he usually inquires as to how much benefit he will receive from their removal, especially if it has been determined that one of the foci requires a laparotomy for its eradication. In every patient of this type it is of great importance that we exclude the possibility of gout before rendering an opinion.

#### TOPHI PATHOGNOMONIC OF GOUT

The classical description by Sydenham of the symptomatology of this disease has not been improved to date. It is well known to all of you, and I shall not burden you with its repetition. Even more important than the history is a careful search for tophi, and no physical examination is complete unless their presence or absence is noted. They are usually found on the margin of the ear or on the antihelix or pinna. The fingers, toes, and elbows are other sites of predilection. All parts of the body should be examined for them. Unusual locations are the edge of the eyelid, thyroid cartilage, vocal cords, and corpus cavernosum. The frequency with which bursae become inflamed in gout is not generally recognized, and perhaps only after incision and the finding of chalky sodium biurate material instead of pus is the real cause of the condition discovered. The skin overlying tophi is generally yellow, white or opaque. Over a newly formed tophus it may be natural or red. Sebaceous cysts, milia, and small projections of cartilage may be mistaken for tophi. The diagnosis of a tophus should not be made without removing some of the contents of the nodule and demonstrating with the microscope the presence of the needle-shaped crystals of sodium biurate. According to majority opinion the presence of tophi is pathognomic of gout.

#### AIDS IN DIAGNOSIS

In all cases of arthritic joint pain in which the etiology is not clear a blood uric acid test is essential. At the Woodland Clinic the question of gouty diathesis is considered of such importance that a blood uric acid is done as routine on all patients suffering from arthritic joint pain in which the etiology is not easily established.

At times a high blood uric acid may be found in a patient who shows no tophi after careful

examination, thus giving us a laboratory aid of considerable importance in diagnosis. This should be carefully borne in mind by the physician who may not have access to a laboratory and is forced, therefore, to reach a conclusion without this valuable diagnostic aid. Uric acid in the blood of normal individuals, taken after a fast overnight, varies from 1 to 3 milligrams per hundred cubic centimeters. Values up to 6 milligrams may occasionally be found in apparently normal individuals. In patients suffering from gout the blood uric acid may vary from 5 to 12 milligrams per hundred cubic centimeters of blood, or even higher. Pratt and McClure believe that the presence of more than 3 milligrams of uric acid per hundred cubic centimeters of blood should arouse a suspicion of gout. Black makes a positive diagnosis of gout even in the absence of proved sodium biurate crystals in patients who have had attacks of acute arthritis and whose blood uric acid is above 5 milligrams per hundred cubic centimeters. In interpreting the significance of a high blood uric acid we must remember such conditions as leukemia, polycythemia, interstitial nephritis, febrile conditions and others as a possible cause.

Though investigators are not agreed as to its value, the roentgenogram may be still another aid in differential diagnosis. According to McClure and McCarty the characteristic so-called gouty changes are represented by discrete circular or oval areas of decreased density, that is, areas of rarefaction. These areas form segments of a circle when they occur in the edges of the bones, their borders being more or less distinct and often very sharply defined. The areas of decreased density which radiologists believe are caused by tophi are, according to these authors, very often merely focal areas of absorption of lime salts and may be found in from 10 to 12 per cent of the non-gouty arthritides and therefore are not diagnostic of gout. They, like Strangeways, are conservative in evaluating the importance of the roentgenogram as a reliable aid in differential diagnosis. Phillips and his collaborators think that a good x-ray film is of infinite value as a diagnostic aid, especially in patients who give no history of attacks. In their series of one hundred cases diagnosed roentgenologically as gout, seventy-five were not suspected clinically and thirty were discovered in the examination of films taken on account of injuries or other conditions not related to gout. They point out that early gout cannot be differentiated roentgenologically from hypertrophic arthritis, but conclude that hyperuricemia, in the absence of clinical symptoms but with positive radiological findings, indicates the presence of active gout and also that the x-ray diagnosis can be substantiated in most cases by a high uric acid determination. It is probably too early as yet to draw any definite conclusions regarding the value of x-ray in the differential diagnosis between gout and arthritis. However, it is important that careful search be made in every roentgenogram for the supposed characteristic

punched-out areas, especially when the blood uric acid is higher than normal.

#### CAUSES OF GOUT

The cause of gout has been a debatable question since time immemorial. Some of the most important hypotheses are:

1. That uric acid is merely incidental.
2. That gout is a form of nephritis.
3. That it is due to an excessive production of uric acid.
4. That it is due to diminished destruction of uric acid.

Many arguments may be given in favor of each of these theories, but no one of them satisfactorily explains the problem. Interesting is the fact that the intravenous injections of uric acid will not produce an acute attack of gout. On the contrary, Bergland has found that during an acute attack some patients state that they feel somewhat better after the intravenous administration of uric acid despite the fact that the uric acid content in the joint fluid may be increased.

In prescribing the régime for gouty patients the most important factor is the diet. This should be purin-free, with abstinence from all alcoholic beverages. Bergland has found that patients on a purin-free diet, high in protein, show a lower level of circulating uric acid than on a purin-free low protein diet. The difference, he states, may be as much as 2 milligrams per hundred cubic centimeters of plasma. He calls attention to the fact that the blood urea and non-protein nitrogen should be checked at intervals when a high protein diet is prescribed for elderly individuals who may have some impairment of their kidneys.

As in times past colchicum still remains the drug par excellence for the relief of the acute symptoms of gout. Cinchophen or proprietary preparations of the same substance may be of decided value in relieving the pain in some patients. In interpreting our results from the administration of such medicines as cinchophen we must remember that normal individuals excrete an extra amount of uric acid when these drugs are administered and that they may have just as favorable an effect in relieving the pain of an acutely inflamed rheumatic joint as they do that of a joint affected by gout.

Many methods of treatment such as those given at various spas—physiotherapy, including electrotherapy, etc.—have been advocated during the past hundred years, but at best they are only palliative. Patients who adhere strictly to the prescribed diet often are free from symptoms for long periods of time. Whether it is the diet or periods of remission we are unable to say. Gout still remains an interesting diagnostic and therapeutic problem.

#### CONCLUSIONS

1. Gout should be considered as a possible diagnosis in every patient complaining of arthritic joint pain.
2. In every physical examination a careful search should be made for tophi.
3. A blood uric acid is very valuable in differential diagnosis, and a determination should be

made in all cases of arthritic joint pain of questionable etiology.

4. A roentgenogram may be of some value in differential diagnosis.

#### DISCUSSION

PHILIP KING BROWN, M.D. (909 Hyde Street, San Francisco)—The conditions under which uric acid is increased in the blood do not always indicate gout or a gouty diathesis, nor do we know what regulates the excretion of uric acid. We can influence it with cinchophen, but the mechanism by which nature varies it is one of the unsolved problems. Nor is it always increased in the height of acute attacks.

I have been interested in gout in relation to trauma and to infection. A patient with typical left big-toe gout hobbling across the street had his right toes run over by a Ford. No fracture occurred, but that night the toes of the right foot were all involved in a typical gout attack. A prominent surgeon with asthma, chronic bronchitis, and nephritis got a fresh cold and a bronchopneumonia. While in bed on light diet he developed a typical podagra attack.

Heavy wines and heredity have been held as responsible for most cases, but thirty-three years of hospital service has convinced me that alcohol plays an insignificant rôle, for gout is a very rare disease.

It is interesting to find the statement in Barker and Cole's handbook for the laity on rheumatism that "the cause of gout is definitely recognized and it is known to have nothing directly to do with infection of any kind or in any part of the body."

While gout may be purely a condition which arises from faulty metabolism, the fact remains that, like rheumatism, it attacks joints most likely to be subject to trauma and infection and, like rheumatism, it appears when the physical defenses of the individual are low, particularly from chronic infections.

In spite of the rarity of the typical disorder with the semicircular punched-out areas of bone showing in x-rays outside the actual articular surfaces, Doctor Harbinson is right that chronic and even acute joint disorders particularly involving the toes, ankles, knees, and fingers, need a trial of colchicum before a diagnosis is possible if the use of salicylates is a failure.

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ERNEST H. FALCONER, M.D. (384 Post Street, San Francisco)—Doctor Harbinson calls attention in his paper to the fact—mentioned by Thomas Futcher and other American writers—that gout is more prevalent in this country than generally supposed. Futcher writes: "If physicians will recognize the fact that there is probably no such affection as chronic rheumatism, and that the vast majority of cases of chronic arthritis are either gout, arthritis deformans, or some form of infectious arthritis, it will be found that, with due regard to the points in the differential diagnosis, a great many more cases will be justly attributed to gout than has been the case in the past."

In connection with the etiology of gout, it is interesting historically to note that a writer by the name of Falconer, in 1772, called attention to the association of lead poisoning and gout. Also the great clinician Sydenham wrote: "Great eaters are liable to gout, and of these the costive more especially. Eating as they used to eat, when in full exercise, their digestion is naturally impaired. Even in these cases simple gluttony and free use of food, although common incentives, by no means so frequently pave the way for gout as reckless and inordinate drinking."

A careful history may be of much help in cases suspected of gout, especially an inquiry into habits, hereditary predisposition, and the question of lead exposure. Garrod found that 33 per cent of the gout patients that came under his care in hospital practice had at some time in their lives suffered from lead poisoning.

Blood chemistry and roentgenograms are of help in the diagnosis, but as Doctor Harbinson indicates they are not procedures essentially diagnostic of gout.

The purpose of this paper, I take it, is to awaken our interest and keep before us the possibility of gout as a cause of the arthritic joint pains in some of this large group of patients who are constantly seeking medical advice.

#### POLIOMYELITIS CONTROL\*

By GEORGE E. EBRIGHT, M.D.  
San Francisco

THE problem of the control of poliomyelitis is difficult because important factors concerned in its dissemination are not yet clearly known, especially those referable to the recognition of human carriers of the disease.

#### HISTORY

It is in order first to review the history of the disease as it has come to be known and then to consider methods for its prevention.

J. K. Mitchell described an Egyptian mummy, which was supposed to show changes due to poliomyelitis.

In 1784 Michael Underwood of London described a "debility of the lower extremities," which is apparently the first description of the disease in medical literature. In speaking of its tendency to attack children previously reduced by fever, he may have observed but did not recognize the first hump of the dromedary type of the malady.

In 1835 John Badham of England reported "Four Remarkable Cases of Suddenly Induced Paralysis of the Extremities, Occurring in Children, Without Any Apparent Cerebral or Cerebrospinal Lesion."

In 1840 appeared the classical monograph of Jacob Heine. Twenty years later he published a second edition of his work under the name of "Infantile Spinal Paralysis." This twenty-year lapse of time marked the period of investigation of the clinical history of the disease.

From 1863 up to 1887 was the period of study of its pathological anatomy. Medin's article in 1887 placed the disease in the class of those which occur in epidemics and introduced the most recent era of the understanding of the disease.

#### RECENT INVESTIGATIONS

In 1905 came Ivan Wickman's monograph as a result of the Norwegian epidemic of that year and a description of abortive or non-paralytic cases.

In 1909 the disease was first produced in monkeys by Landsteiner and Popper, then by Flexner and Lewis and by Strauss. And it was transmitted from one monkey to another by three different observers working independently in New York, Vienna, and Paris. Also in 1909 Flexner and Lewis and Landsteiner and Levaditi discovered the fact that the disease was due to a filtrable virus, and the two former workers demonstrated that an attack of experimental poliomyelitis protected the individual against a second attack. Then immunizing substances were found in the

\*Editor's Note—This paper by the president of the California State Board of Health is of timely interest because of the prevalence of poliomyelitis.

blood serum of monkeys that had had the disease, and immunizing substances were demonstrated in the blood of human patients convalescent from the disease. The serum of a patient who had been paralyzed thirty years before was able to protect a monkey from poliomyelitis. Three strains of the virus have been described by Flexner and Amoss. One of inherent low potency which does not excite any reaction in monkeys. Another which produces severe paralytic effects in monkeys and, thirdly, a strain of intermediate severity obtained, however, from an unusually severe clinical case. They know of no means by which a strain active for monkeys can be attenuated artificially. It retains a high virulence. A strain of low virulence may, however, be stepped up in monkeys. The same workers observed a certain strain for a long time and found that it varied up and down in potency, and in fifteen years passed through three distinct phases of virulence.

In persons dead of poliomyelitis the virus has been found in the central nervous system, the intestines, trachea, nose, and mouth. In living patients with the disease the virus is present in the nose and mouth, pharynx, and intestines. The secretion from the mouth and intestines of persons who have had the disease has had the power of infecting monkeys several months later—in one case nearly seven months—usually at least for thirty days, but it begins to lose its virulence rather quickly after the acute stage—after about eight to fourteen days.

The virus has been demonstrated repeatedly in persons who were perfectly well but who had been in contact with those with the disease. Anderson and Frost recovered immune bodies in the blood of 66 per cent of persons who had been in close contact with cases of the disease and who had not contracted it. Swedish observers believe that most adults have had the disease and are therefore immune.

#### SYMPTOMS

It has been estimated that there are from five to seven abortive cases for every paralytic one. Probably this is a low estimate, and it undoubtedly varies with epidemics. Abortive cases predominated in the early part of the Minnesota epidemic of 1921. An excerpt from the Minnesota State Board of Health Biennial Reports for 1920-21 reads as follows: "Attention of the State Board of Health was called to an outbreak . . . which at first was thought to be cerebrospinal meningitis. In general the onset was abrupt with temperature of 103-5, rapid pulse, headache, vertigo, pain in legs, and frequently stiff neck, ranging from slight stiffness to retraction. In some cases the head was retracted, the thighs, legs, forearms, and fingers flexed. Vomiting and constipation were present in the majority of cases. Epistaxis was frequent and often the first pronounced symptom. Sore throat was frequent and both drowsiness and restlessness were common. Of the early cases Kernig's sign was said to be present in all, and Brudzinski's sign in all severe

cases; knee reflexes were increased, decreased, or normal.

The early cases presenting meningeal symptoms without paralysis as a rule did not appear to be so seriously sick as the usual epidemic meningitis cases, and most cases recovered rapidly after but four or five days' illness. Multiple cases in the same family occurred and in many instances several persons in a family had, one after the other, a transient illness of but a day or two in which the onset was abrupt, with or without sore throat, and with general symptoms as above described, but without meningeal symptoms other than a stiff neck, while but one or two serious cases with marked meningeal symptoms occurred.

Later early cases which were thought to have no muscular impairment were carefully studied, and approximately 50 per cent of these cases showed lowered or absent reflexes in one or more members, loss of muscle tone, and in a few instances actual muscular atrophy."

It has been shown that the nasal secretions contain a specific protective substance active upon the virus. It appears to be constant in adults and is also present in children, though more irregularly than in adults. Nasal washings of healthy adults in general neutralize the virus. This same substance has also been found in the blood.

#### SPREAD OF THE DISEASE

*Transmission of the Disease*—It is the consensus of opinion that poliomyelitis is transmitted chiefly by means of direct contact with persons who harbor the virus in the nose or mouth—either contact with persons suffering from the disease, or who have had the disease, or who are carriers *who may never have had the disease*.

Rats and stable flies have been suspected of being possible intermediate hosts, but there appears now to be no doubt that the chief factor is contact with a patient or a human carrier.

Infection may take place through the mouth, nose, by means of the conjunctiva and tear duct, and the stomach—the latter infrequently.

*Diagnosis*—Epidemic meningitis, botulism, epidemic encephalitis, veronal poisoning and cerebrospinal syphilis may present a striking resemblance to poliomyelitis. In the presence of an epidemic of poliomyelitis a diagnosis of botulism in a suspected case would seem unsafe unless confirmed by laboratory findings. In recent epidemics extensive recourse has been made to examination of the spinal fluid as a means of differentiation from meningitis and lethargic encephalitis. Regan places especial stress upon the colloidal gold reaction which he finds constantly in the syphilitic zone. The cell count is always high and sugar is increased, according to New York reports.

#### PREVENTIVE MEASURES

*Prevention — Bedside Precautions* — Patients should be insulated in the acute stages of the disease in much the same way that typhoid patients are. They should be protected against visitors and against insects as possible accidental carriers. The

body discharges should be disinfected. Separate dishes and silver should be provided which are to be scalded after use. Attendants should be careful of their hands after contact with patient. Carbolic acid is useless.

Nose and throat sprays of antiseptic solutions are useless, and will not prevent infection. They do harm in removing a natural protective substance in the nasal secretion which neutralizes the virus of the disease.

*General Public Measures of Prevention*—Infantile paralysis is one of the few infectious diseases in which the mode of transmission is still unknown. Consequently we are not able to take effective measures against its spread. There is no evidence that regulations against the congregation of persons have had any influence in controlling infantile paralysis. This would be expected when the relative infrequency of secondary cases in families is considered.—Department of Public Health of Massachusetts.

There has appeared thus far no advantage in closing schools unless possibly in the spring or early summer in the presence of a rising epidemic.

The report of the Committee on Poliomyelitis of the Washington Conference of State and Provincial Boards of Health contained the following recommendations:

First: That an isolation period for a patient of not less than two weeks nor more than three weeks from onset be required unless the temperature has not returned to normal in the meantime.

Second: That children of the same household in contact with a patient be restricted from places of public assembly for a period of fourteen days from last date of contact, as determined by the health officer.

Third: That an adult of the household, if the patient is properly isolated, may continue his vocation, provided it does not bring him into contact with children at any time.

*Disinfection*—Your committee recommends that: first, the discharge from the nose, throat and bowels of the patient be disinfected promptly; second, the caretaker shall wash her hands with soap and hot water promptly after handling said discharges; third, the caretaker shall wash her hands similarly before leaving the room occupied by the patient; fourth, isolation shall be terminated by a thorough washing of entire body and hair of the patient, and the room cleaned with soap and hot water, aired and sunned; fifth, sick-room precautions should include the usual attention to cleaning and disinfection of eating utensils, personal and bed clothing, rugs, door-knobs, and other things handled by the patient or caretaker.

*Precautions for Physicians and Nurses*—The committee recommends that unless a special covering and gloves be worn (a) the physician and nurse shall so handle the patient that discharges shall not soil their clothing and special care be taken to prevent droplet infection; (b) the phy-

sician and nurse shall thoroughly wash their hands before leaving the premises.

*Hospitalization*—The committee approves the removal to hospitals of patients affected with poliomyelitis when proper isolation and satisfactory care for the patient cannot be secured in the home; but the committee believes that during the early stage of the disease the patient needs rest in bed, and transfer to a hospital may be detrimental to his welfare.

*Other Suggested Measures Designed to Control the Disease*—(a) The committee does not recommend the use of travel certificates, but travel and contact with children should be discouraged.

(b) Surveillance for persons coming from infected districts, in the opinion of your committee is not necessary, unless the person has been definitely exposed to infection.

(c) The most effective agency in the control of this disease is the employment of public health nurses, who, in cooperation with the physician, will teach sick-room precautions, the necessity for rest in bed, and the need of proper support for affected parts.

(d) Expert diagnosticians should be provided and the use of lumbar puncture urged.

(e) Food, especially such as is consumed uncooked, should be considered as a possible means of transferring the infectious agent and appropriate measures should be instituted to protect the public during an outbreak.

(f) Where poliomyelitis occurs in a school, your committee advises that the school be not closed, but that daily medical supervision be instituted.

(g) Efficient screening and the use of approved insecticides should be employed so that insects shall not have access to the patient or his excretions.

(h) Household pets should be excluded from the sick room.

(i) In the presence of poliomyelitis a search for, and a careful examination of, all ill children should be made. All children having fever should be isolated pending the diagnosis.

(j) Prompt reporting of all recognized or suspected cases, personally or by telegraph, or by telephone, is essential, in addition to the written report required by law.

Future research, it is to be hoped, will reveal a practical test for the detection of clinical types and carriers, a test for immunity and a means of conferring artificial immunity against poliomyelitis.

384 Post Street.

*Quackery Advertisements*—It is reported that the two leading newspapers in Minneapolis do not accept advertisements of quacks. This is practically true also of the New York Times. It is regrettable that the large daily papers in Massachusetts cannot feel that advertisements setting forth unsound claims are not worthy of a place in their columns.

We confidently believe that there will be a time when the advertisements of quacks will be prevented by legal enactment.—*Boston M. and S. J.*

## TUBERCULOSIS: SOME PHASES OF TREATMENT

By JOSEPH W. COOK, M.D.  
Banning

DISCUSSION by Lewis Sayre Mace, M.D., San Francisco;  
Francis M. Pottenger, M.D., Monrovia; George H.  
Evans, M.D., San Francisco.

IN considering the modern treatment of tuberculosis it is wise to recall what tuberculosis is. Tuberculosis is named after the product of the disease—the tubercle. The disease is the final product of a relationship in which “two variable adaptable organisms are concerned: the animal body (the host), and the bacillus (the parasite), each of which may act within an entire gamut of states, thus yielding a large number of results.” Add to this complex situation, Theobald Smith says, the variable dosage of the tubercle bacillus, and one can understand the innumerable varieties of its manifestation; a variety of types of tuberculosis, or degrees of tuberculosis, limited only by the number of hosts harboring within their bodies the parasite or tubercle bacillus.

### INDIVIDUALIZATION IN TREATMENT

One is faced, therefore, with the absolute necessity of individualization in treatment, based on a study of the individual primarily, and his disease or the result of the interaction of the host and parasite secondarily, only as it may affect the particular individual. A small area of tuberculosis the size of a quarter may well kill one patient, while another patient may have both lungs affected and not be particularly annoyed thereby. Personal reaction has more to do with health and life than we know. Personality, mental status and attitude may even determine the result of a conflict between the body and the parasites living within the body.

As Brewer has well said, “we spend our lives peering closely at the body of the patient and allow his personality to slip away from us, and then we look up and find that the body is gone too.” Modern psychology is more and more showing us that our bodies are more than wonderful mechanisms and that there is a something back of it all which subconsciously controls our bodies, and we are gradually awakening to the truth of the old but ever new statement of One who said, “As a man thinketh in his heart so is he.”

Inasmuch as there are two factors concerned in the cause and progress of tuberculosis, we have two avenues of attack or approach in the treatment of it. Our attack on the parasite has not met with success. At the recent meeting of the National Tuberculosis Association the following resolutions were passed:

### NO SPECIFIC PREVENTION OR CURE

1. There is no specific cure for tuberculosis like antitoxin for diphtheria.
2. There is no specific preventive for tuberculosis like vaccination for smallpox.

Calmette in his recent book says: “It seems evident then that all sera of animals prepared

either with tuberculin or with bacilli are devoid of any efficiency, as well for tuberculous patients as for experimental tuberculosis.” In considering the use of chemicals and rare earths in the treatment of tuberculosis he adds: “It is vain to hope to convey by the blood, lymph, or air any of these substances which do not possess a specific chemical affinity either for the bacillus or the tuberculous cell, to the lesion itself. We fail to recognize the essential fact that the tuberculous cell, which is no longer a normal cell but a new complex formed through the symbiosis of tubercle bacilli with the elements constituting the giant cell (just as the lichen is the product of the symbiosis of an alga and a fungus), lives, in a sense, independently of the body which it serves as host. It is no longer linked up with the latter by any capillary vessels. It isolates itself more and more in proportion to the degree of caseation and calcification which it undergoes. It is still possible that certain chemical bodies may have an indirect action upon tubercles by favoring the transformation into fibrous tissue of healthy cells about the tubercles.”

“It must be recognized,” he continues, “that up to the present, despite the great number of attempts to discover among chemical agents a substance capable of arresting the development of experimental tuberculosis in the guinea-pig and the rabbit, these efforts have been in vain. But this is not a reason for discouragement. Certain attempts among those which we have cited deserve further attention. It will be desirable, for example, to give further consideration to those iodized compounds which, if they do not appear full of promise, give, nevertheless, some definitely favorable results.”

### THE STUDY OF THE PATIENT

Our only other approach to this problem is a study of the host or patient, and the greatest success of modern medicine has been shown in what has been accomplished from this point of view.

The third resolution passed by the National Tuberculosis Association states that among the important factors in the cure of active tuberculosis are:

1. Competent medical supervision. Prolonged medical treatment, I may add, is not necessary, but prolonged observation is absolutely necessary.
2. Complete rest under favorable conditions.
3. Carefully balanced and adequate nourishment suited to the individual.
4. Abundance of open air and, if possible, sunshine.
5. Relief from other infections, or other physical or mental strains and handicaps.

You will notice that we are face to face with the problem of building up our patient's own powers of resistance to overcome the temporary failure in immunization which was the immediate cause of the outbreak of the active tuberculosis.

Rest—absolute rest—is the one greatest means at our disposal. Patients should be taught to lie on the affected side. Rest prevents tuberculosis

from spreading. Bushnell frequently told his patients that if he could be sure that the focus would not spread he would let them keep on at their work, but that rest alone would prevent the spread of the disease. Another object of rest is to dry up the focus. "Tuberculosis heals," as Alexander says, "by fibrous encapsulation. In bringing this about, individual resistance to the disease is the most important factor. Rest is the keystone of successful treatment of tuberculosis."

Fresh air—and lots of it—and sunshine are too obviously necessary to need more than passing mention. Heliotherapy is most valuable, but like all powerful stimulants, must be carefully administered and graded to the individual. In heliotherapy Rollier's methods are closely followed. The chest should never be exposed. Sun should not be used when there is much fever or hemorrhage. Air baths are very useful.

Good food is essential, but, as Bushnell says, "most of the miseries of the tuberculous patient are due to overeating or to an improperly selected diet—too much fat especially. A fatty breakfast is particularly bad for the inactive consumptive. Nothing that is bad for the health is good for tuberculosis in the long run, and this applies to food as a fundamental and universally applicable proposition."

Relief from other infections as urged by the National Tuberculosis Association, I presume, means ridding the host of other foci of infection, but may I plead with my colleagues, the surgeons, for more consideration of the patient in this respect? When throats are treated for months and the chest never examined, when tonsils are removed from a glistening edematous throat and the chest never examined, when suspected appendices and ulcers are operated on in failing health and the chests never examined, when teeth are removed almost indiscriminately and the chest never examined—then I think it is time to make a plea for more study and more care to prevent every needless operation on patients with tuberculosis. My own experience has convinced me that removal of tonsils in a patient with an early case of active tuberculosis is a most dangerous proceeding, and is attended by an increase and spread of the activity of the process.

In its appeal for relief from other physical or mental strains or handicaps, I feel that the National Tuberculosis Association is voicing the sentiments of the leaders of our profession—that our greatest hope lies in the elimination from our patients of all physical or mental strains and handicaps in order to raise their resistance so that the body itself can overcome its resident parasite either by total obliteration, or by walling it off by fibrous tissue, or perhaps by caseation and evacuation of cavities, throwing off sufficient infected material that the body can again regain the upper hand. "Our object of treatment, then," as Bushnell says, "is to help the patient to cure himself." "There is no disease," according to Knopf, "which has so large a social and psychological aspect as tuberculosis, and the physician

who wishes to be a specialist in this line and who neglects to study the social aspects of the disease and the soul life of the tuberculous patient will never become the ideal physician."

As a patient of mine wrote, "To be thrust from a life of successful business or other activities into the discipline and rest of a tuberculosis sanatorium is a contrast that certainly needs to be considered in the treatment of tuberculosis. Many patients complain bitterly that 'taking the cure' is more severe than the disease. The self-discipline required at this point, the need to be complacent and free from worry over blasted hopes and plans, demands much effort and should be sympathetically considered in any course of treatment. Patients with chronic sickness," he continues, "most certainly require strictly professional service, but they also are in need of that human touch or indescribable something that has a definite therapeutic value." In other words, if there is a psychology or philosophy by which we can help our patients to find themselves and thereby get their balance and raise their resistance and thus assure their immunization, let us acquaint ourselves with it and pass it on to our patients. "It is the spirit that quickeneth, the flesh profiteth nothing."

#### TREATMENT OF SPECIFIC SYMPTOMS

Having considered the parasite and the host, and having endeavored to establish the idea that the host is more than a mechanism, I wish to consider the result of the interaction of the parasite and the host, namely, the disease itself, and briefly consider the treatment of some of the most common symptoms of the disease.

For cough use as little opium as possible. Mustard plasters and inhalations and simple medicines to loosen the cough are valuable. We should teach the patient to control his cough, as much of it as is habit, and an unproductive cough can almost always be checked by the will. Intratracheal injection of oil—oil of acacia, menthol, and guaiacol—frequently is of great value, a few drops with laryngeal syringe dropped into the larynx. The use of creosote, in the great majority of patients, I believe contraindicated because of its effect on the stomach.

For pleurisy, heat, iodine, or strapping the chest are indicated. Ice sometimes, or liniments may be useful.

For bleeding, rest, absolute rest, ice to suck and ice bag to chest, calcium lactate by mouth—10 grains four times daily or a daily injection of a 10 per cent solution, 5 cc. of calcium chloride by vein—codein or morphin and atropin, codein by preference, only if necessary to obtain a quiet mental attitude. Luminal can frequently be used to advantage in place of opiates. Eighty years ago James Jackson wrote, "rest of body and mind, and holding the tongue, are quite as important at the moment of bleeding as the medicinal articles." It is surprising that recently absolute silence on the patient's part is again emphasized as most beneficial. Pneumothorax may have to be resorted to to control bleeding.

Natural pneumothorax, a more frequent acci-

dent than one would suppose, is best treated by rest, supportive measures, morphin for the shock, and withdrawal of air from the affected chest cavity. This can be done by any aspirating syringe, but preferably under control of a manometer and by a pneumothorax apparatus. A good caliber needle can be used alone if no syringe is handy. Frequent aspiration may be required.

I have found overeating a frequent cause of indigestion. For that, tincture belladonna, eight to ten drops before meals, various mixtures of pepsin and soda after meals—sometimes dilute hydrochloric acid with meals—are all useful.

For diarrhea—possibly tuberculous—a flannel band around abdomen, simple diet, calcium chloride, 10 per cent solution, 5 cc. by vein two or three times a week, or calcium lactate by mouth, paretic as needed, and sun baths on abdomen are most valuable. In fermentative conditions restriction of starches and fruits, and occasionally even of milk, and the administration of calcium carbonate and tanalbin, 15 grains each four times daily.

When patients are failing in spite of all care, surgical compression of the lung remains to be considered. "Pulmonary compression constitutes," as Alexander says, "a 'physiologic amputation.'" The most striking anatomical result of pulmonary compression is a proper proliferation of fibrous tissue which encapsulates the tuberculous lesions and closes cavities and renders the disease inactive."

Artificial pneumothorax, where it is possible, will frequently save life and thoracoplasty will frequently save patients in whom pneumothorax fails. Provided these surgical means of treatment are not resorted to because of a hopeless attitude toward tuberculosis in general, I am in sympathy with them. If Calmette's statement is correct, that one-sixth of the total volume of the lungs is sufficient to sustain life, are we not justified in changing our attitude somewhat toward our patients? Can we not stop thinking of our patients only in terms of lungs, cavities, râles, areas involved, and while recognizing our patients' dependence on their lung condition, ask not how good or how bad the lungs are, but will they do the work? Sir James Mackenzie's greatest contribution to the study of the heart was that he looked upon the heart in terms of work capacity and asked not how does the heart sound, but does it do the work, and thereby freed us from the dread and fear of heart murmurs. In other words, do not be frightened by a chest full of râles and bronchial or cavernous breathing, but take everything into consideration. The patient may have had tuberculosis for ten to twenty years. By the lowering of his resistance he may have decompensation. He should be kept in bed as long as he has a high temperature or rapid pulse, but it is not necessary to keep him in bed until his râles all clear up, as he may die of old age before that time. We should think of him as a patient with lost pulmonary compensation

and that our job is to get him back to the stage of proper compensation.

#### REHABILITATION THROUGH HOPE

"Idealism," said a patient, "is the only cure for tuberculosis." If we can awaken hope and idealism in a patient with even advanced tuberculosis, rehabilitation may be accomplished. We should never be hopelessly discouraged. If we are unable to make a perfect physical cure of our patient by wise guidance, we can teach him to rest and to care for himself that he may become at least an economic cure. Robert Louis Stevenson, Bushnell, Trudeau, and many others are examples of economic cures, and all help to prove that tuberculosis, if kept under intelligent control, is not incompatible with the living of a useful life.

#### DISCUSSION

LEWIS SAYRE MACE, M. D. (240 Stockton Street, San Francisco)—Doctor Cook has done well to call our attention to the necessity of individualization in the treatment of lung tuberculosis. Generalization is a great danger in the treatment of any illness and especially so in tuberculosis: a disease of many and various manifestations and always complicated in its social aspect by conditions of occupation and environment.

One remembers the advice of the elder Pepper in his practice of medicine that the tuberculous should ride horseback and drink whiskey, a fearful counsel it seems to us now with our modern ideas about rest régime and treatment although it may have been in its final result but little worse than the frequently heard direction, "Go to Arizona," so often given as a routine on receipt of a red line diagnosis from the Board of Health.

We are learning in all departments of medicine to study and observe our patients, which is a more artful calling than making diagnoses. We are learning to test impaired organs by seeing what they will do and to plan our campaign accordingly. Why except the lungs from this progressive attitude?

There is no "never" and no "always" in medicine and each question of prognosis and treatment must be decided on its merits and upon the evidence submitted. The man with a slight cough and positive sputum may not be condemned to sell all his goods and go to Arizona; there may be hope for him with the help of properly directed treatment supplemented by changes in his occupational conditions when he has arrived at arrest.

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F. M. POTTINGER, M. D. (Pottenger Sanitarium, Monrovia)—Doctor Cook emphasizes rightly the different manner in which different patients react to tuberculosis. There is undoubtedly much in soil. Different degrees of severity of the diseases are due to difference in virulence of strains of bacilli; at the same time the difference in the patient's own reaction is probably the greater source of variation.

The main factor in the cure of tuberculosis is the cellular reaction. While undoubtedly certain circulating antibodies must be present, as otherwise we could not have the sensitization of body cells far distant from the focus of infection, yet the main factor in healing is the allergic inflammatory reaction of the tissues in and surrounding the tubercle.

The natural stimulus which causes the allergic reaction necessary to healing is some element supplied by an active focus. This allergic reaction is brought about when bacilli escape from a former focus, causing new implantations to take place. We sometimes see an extension in one lung produce an allergic reaction in tissues far distant in the same lung, or, even, in the other lung, or in different organs such as the testicle, larynx or glands. This allergic reaction can be brought about artificially by the injection of dead

bacilli or bacillary protein. Following an allergic reaction produced by an extension of the disease we often see very definite evidence of healing.

Doctor Cook well emphasizes the importance of rest in the cure of tuberculosis. There is no other measure so important in the healing of tuberculosis as rest. Exertion during the stage of active tuberculosis destroys more patients than any other thing. When the disease is active it not only keeps up the activity but causes the disease to spread further. One of the most important things in cure is to stop the spread of the infection, and rest will do more toward this than any other measure that we use.

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GEORGE H. EVANS, M.D. (350 Post Street, San Francisco)—One must pass the very interesting problem brought up by Doctor Cook in the introduction of his paper, namely, the reaction of the patient to the tubercle bacillus, if the more practical part, "Some Phases of Treatment," is to be discussed in the space allotted.

There can be no doubt at present that the healing of a tuberculous process is brought about through cellular stimulation of the tissues about the diseased focus. On this basic theory all recent scientific endeavor toward the attainment of a specific therapy has been directed, but, as Doctor Cook has said, these efforts have to the present time been unsuccessful.

The author very properly calls attention then to the other approach, the study of the patient. I was gratified to see the reference to individualization in treatment, in the preface of his paper. Probably the greatest therapeutic crime in the annals of tuberculosis is the attempt to treat it en masse. As the patient's individual cellular reaction to the tubercle bacillus varies in each case, so must each patient be a distinct individual study to the one who exercises the competent medical supervision regarding which Doctor Cook speaks. It is surely so in pneumonia, in typhoid fever; should it be less so in tuberculosis?

"Complete rest under favorable conditions" is unquestionably the most important single remedial agent at our disposal and it is most comprehensive. I wonder if the average physician giving this direction realizes the importance here of individualization? If he thinks he can obtain it, I mean complete physical and mental rest, by merely telling the patient to take it, as so many physicians are doing, and neglecting the constant competent medical supervision, he is a poor psychotherapist and lacks sympathetic understanding of his patient's needs.

Focal rest of the diseased area by means of compression is now a thoroughly established procedure in the therapy of tuberculosis. Compression by air, or thoracoplasty in carefully selected cases where air compression cannot be attained because of pleural adhesions, in competent hands, has done much to bring hope to otherwise hopeless advanced cases.

Heliotherapy in pulmonary tuberculosis is still in the controversial stage. It is interesting to note the modified views of such leaders in heliotherapy as Rollier and LoGrasso, as experience in this field of therapy demonstrates the value of this remedy in pulmonary lesions. I have found that in the productive type of the disease, with little or no fever, that the careful application of heliotherapy can be rendered devoid of danger, and of marked benefit to the patient. How much of this apparent benefit is due to the air bath advocated by Doctor Cook is difficult to determine.

Much was contained in the paper regarding the treatment of symptoms. These patients are altogether too much the victims of polypharmacy as a rule. A more thorough search for the causes, underlying cough, diarrhea, and many of the complications to which these symptoms are due, would not only point out a clear path for accurate therapeutic endeavor, but would relieve the patient of much meddlesome drug-giving which he is so ill able to withstand.

## GRANULOMA COCCIDIOIDES — APPARENTLY SUCCESSFULLY TREATED WITH COLLOIDAL COPPER\*

REPORT OF TWO CASES

By H. P. JACOBSON, M.D.  
Los Angeles

DISCUSSION by Anstruther Davidson, M.D., Los Angeles; Irwin C. Sutton, M.D., Hollywood; Kendal Frost, M.D., Los Angeles; Philip H. Pierson, M.D., San Francisco.

THE purpose of this communication is to record some observations on the efficacy of colloidal copper in the treatment of coccidioid granuloma. My reason for this report based upon the results of this method of treatment in only two cases is quite obvious. I believe that, in view of the rather limited number of cases of this disease that may come to anyone's attention in the course of practice, collective statistics of a trial of this method of treatment should prove quite valuable. It is hoped that through such collective study and compilation of results achieved we may be better able to obtain early, definite, and positive knowledge of the value or uselessness of this therapeutic agent.

### DISEASE FREQUENTLY DIAGNOSED AS TUBERCULOSIS

The disease is either comparatively rare or is frequently permitted to run its fatal course, unrecognized, and diagnosed as tuberculosis. Thus far, since the first recorded case (Posodas) by Wernick<sup>1</sup> in 1892, a total of eighty-three cases of this infection have been reported in the literature. That this number falls far short of the actual incidence of the disease may be judged from the frequent references in the literature dealing with postmortem findings of coccidioides in cases which have been diagnosed antemortem as tuberculosis. That this disease may easily be diagnosed as tuberculosis is emphasized by Case 1. This patient's condition was diagnosed as tuberculosis in a well-known institution in Cleveland, Ohio, whereto he was admitted as a hospital patient for the purpose of having a "cold abscess" opened and drained. Incision and draining of this supposed tuberculous abscess there, resulted in prompt healing of the wound, but this fact was not sufficient to arouse the suspicion of the attending surgeons that they were dealing with a case of coccidioid granuloma. The following two case reports will serve to illustrate the points which I wish to emphasize:

### CASE REPORTS

CASE I—M. C., negro, male, 22 years of age, presented himself for admission to the Los Angeles General Hospital, October 8, 1926, and left the hospital apparently well, January 13, 1927. At the time of admission he complained of fatigue, cough, night sweats, loss of weight, and several variously sized deep-seated abscesses and fistulae situated on the extremities and neck. His present illness commenced in the spring of 1925 while working in the cotton fields in Stock-

\* From the Department of Dermatology, Los Angeles General Hospital.

Read before the California Medical Association at its Fifty-Sixth Annual Session, April 25-28, 1927.

ton, California, with a small deep-seated nodule on the chin and a similar lesion on the right forearm, accompanied by a severe cold in the chest, and night sweats. Several weeks following the onset of that illness he left Stockton for Cleveland, Ohio, where his cough and night sweats somewhat subsided, while the soft lump on the right forearm continued to enlarge and to interfere with motion, causing him quite a degree of discomfort. In addition to this there also appeared a symmetrical nodular eruption on both sides of the neck and in the right mandibular region. Incapacitated by the large tumor mass on the right forearm, and concerned about his looks because of the lesions on the neck and jaw, he felt compelled to seek medical advice, which he obtained in the Lakeside Hospital of Cleveland, Ohio. After going through a routine preliminary clinical examination he was admitted to that institution with a diagnosis of a tuberculous abscess, which was incised and drained in March, 1926. Soon after the operation new abscesses began to appear on both thighs and right leg. At the same time he also began to develop severe constitutional symptoms, such as cough, loss of weight, fever, marked night sweats, and extreme weakness. Because of these constitutional symptoms, he remained at the hospital forty days. After a final examination by the attending physicians there he was advised, because of the supposed tuberculous nature of his condition, to return to California, where the balmy climate would hasten his recovery. He returned to Los Angeles in July, 1926, and after trying vainly to do some work by which to support himself he was compelled to give up the attempt and to seek relief at the Los Angeles General Hospital, where he was admitted October 8, 1926.

Physical examination at this time revealed a colored young man obviously uncomfortable and ill. On either side of the neck, about one and a half inches below the lobes of the ears, there were seen two fair-sized fistulae discharging seropurulent material, surrounded by dark-colored crusts closely adherent to the underlying skin. The walls of the fistulae were hypertrophic, indurated, and markedly elevated above the level of the surrounding skin. A smaller lesion about one and a half inches in length was present in the right mandibular region, immediately below the angle of the jaw. On the midposterior aspect of the right thigh there was a fluctuating tumor mass of the size of a large orange surrounded by an area of deep induration several inches in width which was only mildly tender to the touch, but caused the patient a good deal of discomfort and interfered with his movements. On the external malleolar region of the right ankle was a superficial, sluggish ulcer of irregular shape from which extended a small tortuous fistula into the subcutaneous tissue. On the dorsal surface of the left hand in the region of the ring finger there was present a soft, gummatous, painless swelling, in the center of which was an irregular ulcer of the size of a dime exuding a tenaceous, brownish yellow seropurulent material.

**Laboratory Findings**—Aspiration of the abscess on the midposterior aspect of the thigh drained about one pint of brownish yellow tenacious pus. Microscopic examination of the fresh pus revealed numerous refractile, double contoured spheres, which varied considerably in size and were largely composed of a coarsely granular protoplasm. A few isolated budding forms of these organisms were also observed in these smears.

Culture on glucose agar at room temperature showed a definite growth at forty-eight hours. After five days the whole surface of the medium became covered with a growth in the form of paraffin-like rounded plaques surrounded by fluffy, snow-like flakes, which continued to grow to larger dimensions and to penetrate the medium for several weeks after. Microscopic preparations from these cultures revealed an outgrowth of coarse, branching mycelium with here and there dilated or clubbed ends of some of the segments as well as occasional chlamydospores on some of the hyphae. Search for the organism in sev-

eral slides of tissue, both paraffin and frozen sections, failed to reveal the presence of the parasites there. The pathologic changes found were those of an inflammatory process of the corium and subcutis with secondary involvement of the epidermic layers. There was a generalized parenchymatous and interstitial edema of the tissues of the corium accompanied by a mild degree of granular degeneration, some evidence of new blood-vessel formation, and a diffuse cellular infiltration extending to and involving the subcutis. The cellular infiltrate was composed of round, epithelioid, and plasma cells, with here and there an occasional giant cell, with no evidence of definite tubercle formation. The epidermis was irregularly acanthotic and involved in a generalized edema, both parenchymatous and interstitial, with here and there some vesiculation, but no evidence of abscess formation.

**Course and Treatment**—During his first few days in the hospital he was kept under observation in the orthopedic service with a tentative diagnosis of tuberculosis. Soon after the diagnosis of coccidioides was established he was transferred to my service in the department of dermatology where active treatment was begun. This consisted of deep intramuscular injections of colloidal copper every four to five days plus the usual routine hospital care.

The large abscess on the thigh was incised and the cavity irrigated with one-half of 1 per cent solution of copper sulphate daily for several days. In all the patient received nineteen injections of colloidal copper between November 1, 1926, and January 29, 1927—almost two months. Immediately preceding the copper treatment the patient showed definite evidence of rapid decline, such as fever, rapid pulse, recurrent night sweats, cough, appearance of new lesions, and rapid emaciation. The first sign of improvement was noted November 18, when he informed the intern that he felt better. From then on there was steady improvement, the lesions gradually involuting and the cough and night sweats completely subsiding. In addition to these signs of improvement he began to gain weight and asked permission to return to work. His request was granted him by the intern without my knowledge on January 12, 1927, when apparently the disease process had been arrested and there had been a gain of seventeen pounds in weight. Unfortunately his departure somewhat hampered my further observation of his case, as in spite of my pleading with him to report at my office regularly for treatment he has not been seen or heard from since January 29, 1927, at which time a culture taken from a partly healed lesion on the neck failed to grow the organism of coccidioides. My attempt to trace him by mail has so far proved unsuccessful. What his present condition is I do not know, though I am reasonably certain that, in view of the help he received at our hands at the hospital, he would again seek our aid should his condition demand it.

**CASE II**—Male, age 28 years, negro, laborer, born in Georgia but lived in Birmingham, Alabama, up to two and one-half years ago, when he came to Los Angeles, where he has since lived continuously up to the onset of his present illness. He has never been to nor has he lived in the San Joaquin Valley.

His present illness commenced in December, 1926, with a severe cold which failed to respond to usual home remedies, but continued to trouble him until he was finally compelled to stop working and to seek medical relief. He was admitted to the Los Angeles General Hospital February 16, 1927, and was seen by me in the dermatologic service of the hospital February 18, 1927. Observation of the patient at that time revealed a colored man rather poorly nourished, apathetic and drowsy and seemingly quite ill. Questioning elicited the complaint of intense headache, severe cough with profuse expectoration, drenching night sweats, dimness of vision, precordial pain, swelling of the ankles, loss of weight, abdominal, cramp-like pain radiating to the back, and extreme weakness. Physical examination revealed very prominent eye-

balls, corneal opacities due to an old interstitial keratitis (probably specific in origin) and ptosis of the eyelids.

On examination of the chest there was a marked tachycardia associated with increased cardiac dullness. Physical and radiographic examination of the lungs disclosed a diffuse nodular involvement of both lungs, especially marked in the upper lobes.

Neurological findings consisted of exaggerated deep tendon reflexes and positive ankle clonus and a questionable Babinsky.

Examination of the skin disclosed the presence of numerous subcutaneous soft, slightly tender tumor masses and nodules involving the face, chest, abdomen, and extremities. These growths were of unequal size and of different stages of development. Some were no larger than small cherries situated deeply within the subcutaneous tissue and not adherent to the skin proper. Others were much larger and either in the process of ulceration or about to ulcerate on the surface of the skin. Aspiration of a nodule on the left side of the chest revealed in the pus therefrom the *Coccidioides immitis* in its typical form.

**Course and Treatment**—Active treatment with colloidal copper was commenced immediately after the clinical diagnosis of *Coccidioides* was confirmed by laboratory findings, February 18, 1927. The first sign of improvement, a diminution in the night sweats, was noted February 26, after the third injection. Thereafter there was a gradual improvement of his condition. The cough began to subside and the mucoid expectoration, which had up to that time amounted to between three to five paper sputum cups in twenty-four hours, steadily diminished until by March 25, 1927, there was complete subsidence of cough and expectoration. The intense, continuous headache which had kept him awake nightly subsided on the twelfth day after treatment was begun, and has not bothered him since. Unfortunately I am unable at this time to state whether this headache and the other meningo-neurological manifestations mentioned above are coccidioidal in origin or evidence of an hereditary syphilis with present involvement of the cerebrospinal system. The patient objected to a spinal puncture, and a serological examination of the blood revealed at one time a negative Wassermann, and the result of another test was questionable. Meanwhile, in addition to the subsidence of the aforementioned symptoms, the subcutaneous and cutaneous tumor masses and nodules are either in the process of involution or have involuted completely. The patient, at this writing, is gaining in weight and strength, and instead of being bedridden is up and about. What the future holds for him is, of course, premature for me to foretell, but judging by the rapid progress he has made as a result of this treatment I feel justified in hoping and believing that the disease process is arrested, and the chances for his recovery are pretty good.

#### COMMENT

Two features of these cases deserve special consideration which I shall try to discuss somewhat briefly. First is the question of diagnosis: It may not be amiss to question why there have been only eighty-odd cases of this disease recorded in the literature to date. It hardly seems probable that a parasite (*Coccidioides immitis*) which thrives so luxuriantly in animal tissues, and which apparently finds the human economy a most excellent environment for its nutrition and propagation, would willingly confine its activities in such large centers of population as Kansas, South Carolina, Illinois, Missouri, Texas, Louisiana, and Mexico, to one or two individuals without manifesting any further evidence of its existence there in the course of years.

That such is not the case and that coccidioidal granuloma is much more prevalent than would

appear from the limited number of cases reported may easily be judged from the frequent references in literature to the close similarity between this disease and tuberculosis, and to the great likelihood of their confusion. These references are especially frequent in the writings of Montgomery, Ryfkogel, Brown, Morris, Hirsch, Dickson, Cummins, Evans, Pruett, and others, which all emphasize the necessity of thinking of *Coccidioides* in every so-called case of tuberculosis that persistently yields negative bacteriological findings for the tubercle bacillus. Ophüls, in stressing this diagnostic difficulty, cites two cases of his own which were diagnosed as tuberculosis but later at autopsy proved to be *Coccidioides*. My own case which remained undiagnosed in a first-class hospital in Cleveland, Ohio, further illustrates the perfect mimicry of tuberculosis of which this disease is capable.

#### COCCIDIOIDES IS NOT AN EXCLUSIVE CALIFORNIA DISEASE

In view of these facts it seems quite timely and proper to again call attention to the likelihood of the existence of this infection on a much larger scale and in regions heretofore unsuspected. The *Coccidioides immitis*, like most other vegetable parasites, is just as capable of thriving in Massachusetts, for example, as in California. The name of "California Disease" as applied to this malady is a misnomer and is misleading: it certainly falls short of being descriptive of the habitat of the organism causing the disease, and should therefore be eliminated from our vocabulary as a synonym for granuloma *Coccidioides*.

#### RESULTS OF TREATMENT WITH COPPER SIGNIFICANT

The second and perhaps most important phase of this study concerns the treatment of this infection. Heretofore all conservative attempts at staving off the ravages of this disease have met with failure. There are a few isolated instances recorded where, in the early inception of the disease, when limited to an extremity, high and immediate amputation has served to prolong life. In one or two instances this process of amputation had to be repeated and extended to other members or extremities of the body. There is one report on record which claims some benefit from x-ray therapy. Another report claims benefit from extremely large doses of iodides. On the whole, however, opinion is quite pessimistic in regard to successful treatment, and all writers are agreed that nothing has as yet been discovered which offers even slight promise of constant success in the treatment of this disease.

In view of these discouraging experiences in the treatment of this fatal malady, the results achieved with colloidal copper in the two cases herein reported is rather significant. Both of these patients had extensive cutaneous and systemic involvement and, judging from the outcome of similar cases on record. The course of this disease should have continued downward at a rather rapid pace and should have ended fatally in a few weeks. Instead patient No. 1 left the hos-

pital apparently well to resume his daily labors. The second patient, whose condition was even more grave than that of the first victim, has recovered to such a degree he is fully able to care for himself and to be of service to other inmates of the hospital. His subcutaneous and cutaneous lesions, with the exception of several nodules still in the process of involution, have completely disappeared and all subjective symptoms such as cough, night sweats, headache, etc., completely subsided. He eats well and is gaining in weight steadily and, to all appearances, will be ready to leave the hospital and to resume his normal daily duties very shortly. Dr. A. Davidson, consulting dermatologist on our staff, who has cooperated in the observation of these two patients, expressed great satisfaction at the results of their treatment, and felt very encouraged by the possibilities colloidal copper is apparently offering in the treatment of this fatal infection. There is no doubt in my mind that these two victims have made a definite favorable response to this method of treatment. The progress of the disease has been checked, and their physical and mental well-being apparently restored. Whether this beneficial effect will endure or the condition will relapse in the course of time is as yet problematical. My own impression at this time is that the treatment will have to be continued for quite a while, perhaps months or possibly years.

The question of dosage also needs further study. For, if as now appears, copper has some sort of a specific action upon the causative parasites or upon the immunity of the sufferer, there certainly must be some optimum dosage which would best combat this infection, and which has yet to be determined.

#### MODE OF ACTION OF COPPER

Another factor which requires further investigation is the action of this drug in the treatment of this infection. While it is a well-known fact that copper is destructive to vegetable life and is at the same time fairly well borne by animal organisms, the extent to which we may utilize the therapeutic properties of this metal is a matter of conjecture and requires further study. Bevan<sup>2</sup> exploited this fungicidal action of copper in 1905, when he reported a series of cases of actino and blastomycosis apparently successfully treated with copper sulphate administered orally. In view of this it seems quite rational to expect that coccidioidal granuloma, which is caused by an organism quite closely related to the Blastomycis should also respond favorably to copper medication. The results of its employment in my two cases herein reported so far justify this expectation.

#### SUMMARY AND CONCLUSION

Briefly summarizing, we have added two additional cases of granuloma coccidioides to the eighty-three cases of this disease recorded in the literature. It is my purpose to again emphasize the probability of this disease being more prevalent and widespread than the medical profession generally is inclined to believe. This view on my part is supported by the isolated instances of this

disease reported from the different centers of population covering extremely large areas. While heretofore conservative treatment has practically always failed to check the progress of this infection, the employment of copper in the treatment of these two patients has apparently caused a recession of the disease process. While I do not feel justified in heralding colloidal copper as a positive specific against coccidioidal granuloma, I believe that, in view of the successful results achieved with this therapeutic agent in the two patients treated, its further employment on a more extensive scale is amply justified.

1016 South Alvarado Street.

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#### DISCUSSION

ANSTRUTHER DAVIDSON, M.D. (419 South Alvarado Street, Los Angeles)—As all previous remedies used in this disease have failed, I have watched the cases reported throughout the whole treatment with colloidal copper, and the results are certainly very encouraging. In the case with lung involvement the results were striking. I have heretofore never seen a case of lung involvement survive more than a few weeks.

Many more cases have been seen in California than have been reported, but I think it is not by any means confined to this state. As Doctor Jacobson has remarked, nearly all those cases are diagnosed as tuberculosis, quite forgetful of the fact that tuberculosis of the bones in the adult is a very rare affection, at least in California. If the surgeon instead of taking a section of the diseased tissues would examine a smear we would hear of many cases from other parts of the states.

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IRWIN C. SUTTON, M.D. (1680 North Vine Street, Hollywood)—I have been fortunate enough to follow a case of lung involvement with granuloma coccidioides, treatment started by Doctor Jacobson when the patient was practically moribund.

This patient later was shown before the dermatological section of the state society, and was practically recovered.

Although it is, of course, too early to evaluate colloidal copper in this disorder, the results are very striking.

✱

KENDAL FROST, M.D. (1023 Pacific Mutual Building, Los Angeles)—Doctor Jacobson's report on two cases of granuloma coccidioides is noteworthy.

I am inclined to disagree with Doctor Jacobson on the ubiquity of the disease. When the disease was first described in this state the question was raised in the East, particularly in Chicago, of its being a form of blastomycosis. I have never seen any case outside this state. One was reported last year from the Chicago Dermatological Association, the man having contracted the disease while living in New Mexico. It is possible that it is gradually working its way toward the eastern centers.

It will be very interesting if the excellent results obtained in these two cases are confirmed by a larger and more comprehensive series and by these cases remaining cured. It would be interesting to know the technique that was used in the treatment, the size doses and the intervals between treatments, what reactions are to be expected from injections of the substance, and what signs, if any, that the drug may have any irritating action on the internal organs, par-

ticularly the kidneys and the liver, where one would expect signs of irritation from the heavy metals.

PHILIP H. PIERSON, M.D. (490 Post Street, San Francisco)—I was particularly interested in the two cases of coccidioides granuloma, reported by Doctor Jacobson, from the point of view of their pulmonary complications. It is true that the general picture presented by these cases simulates diffuse tuberculosis, but can be differentiated by careful laboratory analyses. I wish to emphasize this point because with incomplete examination patients have received improper and misdirected treatment.

Pulmonary lesions of coccidioides granuloma may simulate a diffuse miliary tuberculosis or a pneumonic consolidation, and healing doubtless takes place by the absorption of the exudate and a resulting fibrosis. The use of copper salts in the treatment of tuberculosis has been tried but largely abandoned because of the irritation of the kidneys. It is interesting to note that in these cases no such toxicity was present.

It is hoped that if cases of coccidioides granuloma are more numerous—and I feel that they must be—careful laboratory examinations, especially sputum analyses, will so segregate them that specific treatment may be applied.

DOCTOR JACOBSON (closing)—In closing this discussion I wish to express my gratitude to the discussants for the generous fashion in which they have participated in the consideration of this paper. I am especially thankful to Doctor Davidson for the important point which he has brought out in his discussion, emphasizing the necessity of microscopic smears in the diagnosis of this condition. Only within the past six weeks have I been asked to outline treatment for a patient suffering from coccidioides who has been operated upon by two very prominent surgeons for tuberculosis of the bones of the forearm. The true nature of the disease was only revealed after the operation, through microscopic smears and cultures.

I am certainly appreciative of Doctor Sutton's testimonial, and wish to state that the patient referred to by him is still under my care and doing very well.

Doctor Frost is certainly at liberty to disagree with me on the ubiquitous nature of the disease, if he so chooses, but I wish to assure him that my statement in this connection is backed up by many recorded cases in the literature from different parts of the country, and from the different states already enumerated.

The dosage, intervals, and technique employed are one ampoule of colloidal copper into the gluteal region administered at intervals of four to seven days, depending upon reactions. So far we have been very fortunate in not noticing any unfavorable reactions, either local or visceral, from the use of colloidal copper.

I thoroughly agree with Doctor Pierson that careful laboratory examinations in many cases of so-called suspected tuberculosis will reveal the presence of coccidioides granuloma in regions heretofore unsuspected.

In conclusion I wish to state that since writing this paper two additional cases of this infection have come to my service at the Los Angeles General Hospital. Both of these patients have systemic involvement and are responding quite favorably to the treatment with colloidal copper. I intend to write a supplementary paper on the progress of these cases and on some experimental work that I am at this time carrying on in connection with this disease.

#### Baby Should Spend His Vacation Safe at Home—

The baby should never be exposed to the perils of vacationing, declares Doctor Thomson, writing in *Hygieia* for June. Home is the safety zone for babies. Even if the food and water supply are pure, the mere change from one supply to another is enough to upset the child badly, and he is not able to withstand exposure to the various diseases with which he may come in contact when away from home.—*Atlantic Medical Journal*.

## STREPTOCOCCUS MUCOSUS INFECTION CAUSING LATERAL SINUS THROMBOSIS\*

By H. J. PROFANT, M.D.  
Santa Barbara

DISCUSSION by Hill Hastings, M.D., Los Angeles; Harrington B. Graham, M.D., San Francisco; Barton J. Powell, M.D., Stockton.

THIS case would seem worth reporting because of the atypical course of an otitis media yet typical of the treacherous way the streptococcus mucosus infection acts. A study of the history, findings and progress of this case is very instructive from many standpoints; especially in its emphasis of the importance of observing even what may seem to be a mild infection of the middle ear. Last summer I was impressed by the emphasis stressed upon this type of infection by Doctors Alexander, Neumann and Rutin of Vienna while attending their clinics and I shall incorporate their teachings in the discussion of this case.

### CASE REPORT

The report is as follows: A boy, age 7, patient of Doctor Coblentz of Santa Maria, had the following history: About the third of April, 1926, he developed a mild acute rhinitis and two days later complained of pain in the right ear. Doctor Coblentz was called and he found a very slight injection of the drum with no bulging and a temperature of 100°. He prescribed warm phenol and glycerine for the ear and rest in bed, and requested that he be notified if the boy did not improve. The mother stated that the pain subsided and she kept him in bed about four days. During that time the temperature was normal and in three days the mother considered him well enough to go back to school. For ten days he attended to his usual duties with no evidence of discomfort; then he suddenly became acutely ill. Doctor Coblentz was again called and found the boy had a temperature of 104° with all the signs of a beginning meningitis. The boy made no reference to the ear. A thorough general examination was made for possible source of trouble but nothing was found. The next day the meningitic symptoms were less marked, but the temperature remained up. The third day the temperature went down, all signs of meningitis disappeared and a few hours of calm were followed by a severe chill lasting fifteen minutes, then a temperature of practically 105° followed with profuse sweating. Twenty-four hours later the cycle was repeated and then the cycles came at shorter intervals.

I was called in consultation five days after the onset of the chills and fever and found the following: the boy appeared acutely ill, he had just had a severe chill followed by a temperature of 105° and a pulse of 130. There was no nystagmus and the fundi were normal; no signs of meningitis, nose and throat negative; no right mastoid tenderness; the whispered hearing test

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practically normal; Weber to right and right Rinne negative. The ear drum was dull, had no light reflex and appeared thick; no redness in the canal and no sagging of the posterior-superior canal wall. I advised an immediate exploration of the mastoid in spite of the late hour at night. On opening the cortex the superficial cells appeared entirely normal. The first impression was that a mistake in diagnosis had been made. I went down into the antrum through dense bone and was again surprised and disappointed; there was no free pus but merely a small amount of thick grayish-red granulation tissue. I then continued posteriorly and suddenly entered an abscess at the knee of the sinus; the dura and sinus had been exposed by the infection and the abscess was localized at this point. I did not explore the sinus for two reasons: first, because the condition of the patient was not good, and second, because I wished to obtain drainage without disturbing nature's barrier too much. When I incised the ear drum I obtained no pus, but was decidedly impressed with the peculiar thick feeling the incision produced. The next morning the boy was very much better, but twenty-four hours later had a cycle of chills and fever and another ten hours after that. I then decided to wait no longer, and under a light anesthetic I exposed the sinus and found an obturating thrombus. Doctors Thorner and Coblenz rapidly ligated the internal jugular above the facial vein, and I then removed the clot and free bleeding was obtained from above and below. There were no more cycles of chills and fever, but the boy was still very septic, showing the strain of ten days of septic absorption. For this reason ten ccs. of a 1 per cent mercuriochrome solution were given intravenously on the first and third days following the second operation. He made a slow but uneventful recovery.

#### BACTERIOLOGY

In a consideration of the bacteriology one is referred to the work of Schottmuller, who classified three types of streptococcus.

1. *Streptococcus longus* or *hemolyticus*
2. *Streptococcus mitis* or *viridans*
3. *Streptococcus mucosus*.

*Streptococcus hemolyticus* forms long chains, and in blood agar lakes and decolorizes the blood in a halo around each colony. *Streptococcus viridans* and *streptococcus mucosus* produce a green discoloration in blood agar but no hemolysis, and the *streptococcus mucosus* forms glutinous colonies. The streptococci have been much studied of late and a great number of strains have been separated upon the basis of carbohydrate fermentation. When cocci of the morphology of the streptococci are found, it is first necessary to distinguish them from the pneumococcus to which they are closely related. Their colonies on ordinary media are similar; both are gram positive and about the same size. Colonies of pneumococci on blood-serum resemble those of the streptococci; colonies on blood agar show a green zone like those of streptococcus viridans. Pneumococci are soluble in bile,

streptococci are not and the pneumococci ferment inulin, streptococci do not. Upon the basis of immunologic relations, four types of pneumococci are found. Recently, after the work of W. L. Holman, the streptococcus mucosus has been classified by many bacteriologists as belonging to type III and called pneumococcus mucosus; however, this is still under question because strains have been found which hemolyzed blood, did not ferment inulin and were not bile soluble, whereas typical pneumococci do not act in that manner.

#### RUTTIN'S CLASSIFICATION

Ruttin gives a clinical classification of the bacteriology of otitis media and its complications; namely, capsulated and non-capsulated.

##### I. Capsulated are

- a. *Streptococcus mucosus*
- b. Diplococci or pneumococci

##### II. Non-capsulated

- a. Streptococci

He contends that the staphylococcus is never a primary infection in any acute suppurative otitis but is secondary as a contamination. Neumann and Ruttin carried out experiments for one year in which every myringotomy was done through a sterile glass tube and a culture taken. A streptococcus was found each time and the staphylococcus was not present until two or three days later, and then may predominate over the streptococcus. Judging from reports in the literature, Ruttin believes the hemolytic streptococcus is more common in America, whereas in Austria the streptococcus mucosus is more frequently found. He gives as a typical clinical picture the following: patient has a mild or moderate rhinitis and develops a slight pain in the ear associated with a fullness which seems to spread over half of the head. Very often the patient complains only of this fullness, diminished hearing and a buzzing in the ear. The tympanic membrane is reddish-gray and not transparent. The fullness and tinnitus is not relieved by Politzer inflation. In any case in which the hearing is not improved and the fullness and tinnitus are not relieved, the routine procedure is to do a paracentesis near the lower border of the tympanic membrane. When this is being done in a case of streptococcus mucosus infection, one has the feeling as Ruttin describes it of "cutting bacon." This is due to the fact that this condition has a tendency to form this type of connective tissue of mucoid consistency. You will note from the above description that the early stages of a streptococcus mucosus infection must be differentiated from the ordinary secretory catarrh of the middle ear, and if confused may be neglected with serious results. After this initial stage there is a latent period which may be a few weeks or several months, and since this infection has a tendency to grow in bone, intracranial complications are apt to develop. This third stage comes on suddenly. In the case I report the acute stage was mild and short, the latent period seventeen days and the third stage sudden and severe.

The right ear was the one involved. Statistics

have been compiled which show that the right lateral sinus is more frequently involved than the left in the proportion of three to two. (Campbell Laryngoscope, Vol. XXXII, No. 10, Page 775.) You will recall that the right lateral sinus is continuous with the superior longitudinal and is larger than the left, which is continuous with the straight sinus. The lateral sinus extends from the internal occipital protuberance to the posterior angle of the parietal bone; then turns almost vertically at what is known as the knee, into the sigmoid groove, where it is known as the sigmoid sinus. The knee is the portion which is most commonly attacked in an infectious process. The next in frequency is the jugular bulb, which is a downward continuation of the sigmoid. In doing the mastoid operation in this case I traced the infection from the antrum posteriorly to the knee of the sinus. Between the upper surface of this bend of the sinus and the mastoid roof is found in some temporal bones a triangular space. In this space the streptococcus mucosus had destroyed the bone and first formed an epidural abscess which caused the initial meningeal irritation. Fortunately, for him, the dura covering the lateral convex surface of the brain is a tough and resistant structure, very loosely adherent to the inner plate of the skull. Unfortunately, in the region of the large venous sinuses the dura divides into two layers, one of which lines the bone and forms the outer wall of the sinus, and the other layer forms its inner wall. Thus a perisinous abscess may readily invade the sinus as occurred in this case. The upper half of the sigmoid plate had been destroyed. Experience teaches that granulations upon the dura are nature's process of walling off the infection; and some operators report good results in merely establishing drainage without attempting to remove the thrombus. I felt justified, therefore, in postponing any further work, especially since the boy's general condition was so feeble.

I feel that this procedure was an important factor in his ultimate recovery. The change in his general condition the morning following the operation was most gratifying. Even the two cycles of chills and fever which followed were less severe and distressing than those preceding. The ligation of the jugular vein was done very rapidly; the question of resection did not enter because the vein was normal. I was interested to hear Ruttin state that he never resects the vein even when found involved; he opens it and leaves it in an open wound of the neck so that he can syringe up through the jugular bulb. Only in extreme changes with marked destruction will he consider a resection.

As to the use of mercurochrome:

Judging from reports in the literature on this subject, the advisability of the use of intravenous injections of mercurochrome is still unsettled. At the Santa Barbara Clinic it has been used with varying results. Dr. Hilmar Koefod, internist, had one of the most dramatic successes with a pneumococcus meningitis following a pneumonia. The patient, a boy of 10, was given an intravenous injection of 1 per cent mercurochrome,

and the improvement was as dramatic as a change following a crisis. In Doctor Koefod's opinion, the improvement was definitely due to the mercurochrome; prior to its use the prognosis had been poor. Unfortunately, all severe infections do not respond as well following its use. We have had no unfortunate or fatal reactions and are tempted to use it in severe septic infections. In this particular case I am reporting, the principal object of the intravenous injection of mercurochrome was to attack the numerous foci of infection which had been spread from the infected thrombus during the cycles of chills and fever. The boy's general condition was definitely better following its use, as was evidenced by his less toxic appearance and improvement in the quality of the pulse.

I believe that the most valuable lesson from this case report can be summed up in the following adage: "Be concerned about every ear infection, no matter how mild it may seem." To me an anxious mother is a comfort. I usually say to her, "I know your child's ear will get well because you are worried about it." An anxious mother is observing and does not neglect to call for assistance. An early myringotomy is the means of preventing most of the serious complications. Other important conclusions are:

1. Streptococcus mucosus is a treacherous infection of the ear because of the mild onset; the latent period, which may be long; and the tendency to attack bone.

2. Streptococcus mucosus is classified by some bacteriologists as a pneumococcus mucosus.

3. A two-stage operation proved successful; first, the mastoidectomy which established drainage; second, the ligation of the internal jugular and removal of the infected thrombus.

4. Intravenous injection of 1 per cent mercurochrome aided in combating the sepsis.

1421 State Street.

#### DISCUSSION

HILL HASTINGS, M.D. (1136 West Sixth Street, Los Angeles)—Doctor Profant's paper impresses us anew with the danger of streptococcus mucosus infection. We all know, to our sorrow, how occasionally we are deceived by a false security in acute ear cases in which the infecting organism is the streptococcus mucosus.

One thought: it is quite remarkable how seldom sinus thrombosis occurs in acute mastoid disease when one considers that the small veins of the infected mastoid drain into the lateral sinus.

Doctor Profant is to be congratulated on doing an exploratory mastoid operation in the face of almost negative mastoid signs, but guided by the history of a recent acute infection which had apparently healed. Furthermore, he is to be commended in the prompt opening of the lateral sinus when septic signs continued.

As to ligation of the jugular I believe that otologists should, when a general surgeon is at hand, ask the general surgeon to do the ligation. The reason for this is that the general surgeon doing neck surgery can do the ligation more quickly than the otologist as a rule, and thereby save additional shock to the patient.

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HARRINGTON B. GRAHAM, M.D. (Shreve Building, San Francisco)—That there is an organism that has a tendency in the adult to form a mucoid secretion in the middle ear and which is very apt to lead on after an insidiously mild course of from two weeks to four

months to intracranial complications, there is no doubt in spite of the discussion as to how the organism may be classified.

Schottmuller described the organism bacteriologically, and Neuman and Rutin followed it with Gohn clinically and in the autopsy room until they had a well-marked picture of its ravages to which very little has been added. I reviewed this work in the *Annals of Otology* in December, 1910, and in September, 1913, described two cases of perforation of the petrous portion of the temporal bone due to the streptococcus mucosus. In Vienna I saw a case that had been operated for an acute mastoid. The patient had healed and was back at work. About a month after the operation he came to me stating that his head was feeling somewhat peculiar and he thought he would see if there might not be something the matter with the ear. Everything was apparently normal and the man made so little of his symptoms that I judged that he was still oversolicitous. That afternoon he was brought in unconscious and died in a few hours, autopsy showing an old meningitis with a membrane covering the dura a quarter cm. thick. The organism was streptococcus mucosus.

It is interesting that I have not seen a case for years. I believe these become virulent in cycles.

✱

BARTON J. POWELL, M.D. (United Bank and Trust Building, Stockton)—Fortunately such a case as was so efficiently handled by Doctor Profant does not occur very frequently.

The profession in general and aurists in particular should offer congratulations to Doctor Profant. In the San Joaquin Valley I have seen mastoid after mastoid operated upon with uninterrupted convalescence. It is this occasional infection with obscure symptoms that should be kept in mind that a life may be saved.

As Doctor Profant says, "be concerned about every ear infection no matter how mild it may seem."

## COMPARATIVE INCIDENCE OF PELVIC PATHOLOGY\*

By HOMER CARLTON SEAEVER, M. D.  
Los Angeles

DISCUSSION by Ludwig A. Emge, M.D., San Francisco; Thomas O. Burger, M.D., San Diego; George Joyce Hall, M.D., Sacramento.

THE relative incidence of the various types of pelvic pathology, the frequency of associated pathology, and other practical points of interest derived from a study of 1000 consecutive abdominal pelvic operations, most of which were done by members of the gynecological staff of the Los Angeles General Hospital during a two-year period, are the points under consideration in this paper.

This list does not include all of the major pelvic cases, nor does it include any of the preoperatively diagnosed carcinomata of the cervix and only a few of the extrauterine pregnancies which enter the hospital. No mention is made in this paper of pathological conditions in the lower genital tract, nor will there be an attempt to enumerate the various microscopical findings.

Textbooks treat each disease of the female pelvis as a definite clinical and pathological entity and definite laws are set down for the management of each separate type of pathology. Practically, this isolated classification is misleading,

as operation so frequently reveals more than one type of pathology.

The following cases will be grouped under the major pathological condition present and the pelvic lesions occurring coincidentally with this major pathology, will be termed the associated pathology.

Of these 1000 cases, the major pathology was diagnosed as follows: 409 cases of pelvic inflammatory disease; 317 fibroids; 124 abnormal displacements of the uterus; 94 benign ovarian tumors; 29 malignancies; 18 extrauterine pregnancies; and seven adenomyomata. Two normal pregnancies were wrongly diagnosed as pathological conditions.

### APPENDICITIS

Of the 1000 cases, the appendix was surgically absent in 157. In 399, it was considered normal and not removed, or pronounced normal by the pathologist after removal. In 444 out of a possible 843, or 52 per cent, the microscopical diagnosis was subacute, chronic or periappendicitis. This diagnosis was returned in seven cases of extrauterine pregnancy; 17 uncomplicated displacements of the uterus; 98 uncomplicated benign pelvic tumors and in 322, or 78 per cent, of the 409 cases of pelvic inflammatory disease.

Pathologists state that there is no difference, microscopically, between these and primary appendices. If this is true, the following inferences may be drawn from the above figures; either that the occurrence of chronic appendicitis secondary to pelvic disease is of little significance or else there is a definite risk taken in the non-surgical treatment of any type of intrapelvic pathology.

### EXTRAUTERINE PREGNANCIES

In 18 cases, the major pathology was extrauterine pregnancy. The scarcity of this condition is due to the fact that these are assigned to another service. Most of the cases in this group were of long duration and secondarily infected.

### UTERINE DISPLACEMENTS

There were 124 cases of uterine displacement which were treated by abdominal operation. The list includes all the various degrees of prolapse in which some sort of suspension could be used for their relief. The apparently large percentage of this condition is explained by the fact, that, in 84 of the cases, there was present, aside from the displacement, other pelvic pathology which called for surgery. The youngest patient was 16, the oldest 70, and the average 29.

### BENIGN OVARIAN TUMORS

In 94 cases the major pathology was a benign ovarian tumor. There were all types from the simple follicle cyst to the massive papillary cystadenoma. The youngest patient was 18, the oldest 70, and the average 39. Excision of the tumor, only, was done in 38 cases and an accompanying hysterectomy in 56. There were no deaths in this group.

### MALIGNANCIES

That only 29 cases of malignancy are recorded is due to the fact that no preoperatively diagnosed cancers of the cervix are included. The total of

\* Read before the Obstetrics and Gynecology Section of the California Medical Association at its Fifty-Sixth Annual Session, April 25-28, 1927.

29 cases were divided as follows: 16 carcinomata of the ovary; six carcinomata of the fundus; three carcinomata of the cervix; three chorion-epitheliomata and one sacroma of the ovary.

#### FIBROIDS

There were 317 cases of fibroids. The youngest patient was 19, the oldest 60, and the average 37. Of these, 11 were treated by myomectomy, 16 by panhysterectomy and 290 by supravaginal hysterectomy. From these figures, it is evident that members of this staff do not believe in routine panhysterectomies. Where the cervix was badly diseased, it was either repaired or cauterized.

There were eight operative deaths in the hysterectomies, making a total mortality of 2.5 per cent. However, two of these were very bad, but necessary risks. Excluding these two cases, the mortality per cent was 1.9.

Of the 317 cases of fibroids, there were 171 or 53 per cent in which this form of new growth was the only pelvic pathology present. In 146 or 46 per cent, there were associated pelvic lesions, as ovarian cysts, pelvic inflammatory disease, etc. This associated pathology was recognized, preoperatively, in 114 cases, or 78 per cent, and unrecognized in 32, or 21 per cent. These cases were all studied from the standpoint of history, laboratory work and physical findings and examinations made by one, two or more of the attending men. No apologies are being made, as it is believed that a similar discrepancy would appear in any other series. This brings up an important point, however, in regard to treatment. It is the opinion of the majority of gynecologists who use radiation that the latter is contraindicated in cases of fibroids where there exists a pelvic inflammatory disease. Therefore, realizing the frequency of unrecognizable pelvic inflammatory disease in association with fibroids, one should be hesitant, except in very specific cases, in recommending radiation, in place of a comparatively safe method of therapy, namely, surgery.

#### PELVIC INFLAMMATORY DISEASE

There were 409 cases in which the major pathology was tubal infection; including all types, postpartum, postabortal, specific and tuberculous. In the majority of cases there was an associated ovariitis or a chronic pelvic peritonitis. The youngest patient was 14, the oldest 62, and the average 25.

The pathology was taken care of in the following manner: There were 39 in which the adnexa on one side and the uterus were saved. In 194, supravaginal hysterectomies were done with the retention of ovarian tissue wherever possible and, in a few cases, ovarian transplantation. In the remaining 176 cases the operation consisted of bilateral salpingectomy with the retention of the uterus and one or both ovaries. The operative mortality for the hysterectomies was 1.5 per cent, the same as existed in the cases where both tubes were removed and the uterus left in place.

Of the 1000 laparotomies, there were only four done to remove an infected uterus which had been left in place at the time of a previous bilateral salpingectomy. Of the 176 cases, in this report,

where the uterus was retained after the removal of both tubes, none have had to be reopened. The period that has elapsed since the operations has varied from five months to two years.

Replies from the heads of different clinics would indicate, beyond a doubt, that there are two radically opposed schools in regard to the disposition of the uterus in cases of pelvic infections: one believing that without the opportunity for childbearing, it is a useless organ; the other, that the part it plays in menstruation is of value. Culbertson states that "the menstrual function is one of the features of normal health, and anything which tends to preserve normal health is desirable in the cure of pelvic disease in women." He reports 246 cases, or 55 per cent, of his operated inflammatory cases in which both tubes were removed and a portion of the uterus left in place. His follow up record shows no occurrence of a premature menopause, and no continuance of excessive bleeding.

It is difficult to accept the belief of those who state that the ovaries, except for reproduction, are of little value after the age of maturity, which is placed at 23. At least, they have some influence on menstruation, and, that the latter is of some practical value to the well-being of a woman, may be derived from the following:

This question was sent to 500 women under 40 years of age, who had had hysterectomies: "Do you think that you would be better satisfied if you still flowed normally every month?" There was no thought, here, of menopausal symptoms, but merely the reaction of a woman toward the loss of a normal function. And that reaction was very definite. To the 203 replies, have been added 72 personal reports. Twenty-four were irrelevant and had to be discarded; 86 of the remaining 251 felt satisfied that they were rid of a useless organ, and, in many instances, termed it such. However, the majority of these replies were from women who, previous to their operations, had had persistent uterine bleeding for many months or years, due to fibroids.

The other 165, or 63 per cent, were even more emphatic, in their desire to express the feeling, that they had been robbed of a normal function. In view of the above, and the fact that only four out of 1000 abdominal cases were reoperated as an end result of retention of the uterus; and in view of the large number of similar operations done in this series, with good results, there is a definite indication for uterine preservation after bilateral salpingectomy, and that indication is especially strong in the case of young women. There are differences of opinion as to the best method of carrying out this conservative surgery. Some men advocate various modifications of the Bell-Buettner defundation operation. Probably better results will be obtained by the usual method of deep cornual excision with peritonization by means of the round ligament.

#### CONCLUSIONS

1. Pelvic pathology is usually more extensive than indicated by clinical history and physical examination.

2. In the reported cases of pelvic inflamma-

tory disease, 78 per cent showed a secondarily infected appendix.

3. Unrecognized salpingitis frequently accompanies uterine fibroids. This point should be borne in mind when determining the method of therapy for these new growths.

4. Young women, whenever possible, should be allowed to retain the menstrual function.

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#### DISCUSSION

L. A. EMGE, M. D. (350 Post Street, San Francisco)—There is at present a decided trend toward conservation in gynecology. It is most gratifying to hear an expression based on a sufficiently large number of observations. Doctor Seaver's brief survey succeeds admirably in presenting some of the salient points now frequently discussed in the literature. There is much to be said about the routine appendectomy in the absence of demonstrable pathology in this organ. Such a procedure should be entirely guided by operative circumstances and age, since it will increase the surgical hazard in spite of the most careful technique. I doubt the wisdom of removing a normal appendix at the end of an extensive pelvic operation or in a patient after the age of 40. Similarly, I believe that in the case of fibroids the type of hysterectomy does not necessarily have to be a complete operation. The incidence of cancer in the cervical stump is very low. On the other hand mortality rates rise with the removal of the cervix in depleted patients. While it is advisable to remove the cervix in many instances, the state of the patient should govern our decision. Surgery still takes the preference over radiation in tumors larger than a three-months' pregnancy. It always should be chosen if inflammatory changes in the pelvic organs are discovered or suspected.

Conservatism in pelvic surgery in the presence of inflammatory disease is one of the paramount issues of present-day gynecology. Here, too, circumstances alone can guide our decisions. While I believe with Doctor Seaver that the effect of menstruation on the psychologic balance of the average patient is of great importance I also believe that one must not confound good judgment with the sentimental aspects of this question. It is the innate nature of the average woman to bemoan the loss of normal uterine bleeding prior to the termination of her allotted time of menstruation when her attention is drawn to the subject. I am sure that such an expression in many instances is only a momentary outburst of resentment. If a patient is properly prepared mentally prior to a destructive operation, if it is explained that her sexo-psychic life will be little if at all disturbed and that organotherapy will lighten her menopausal reactions, the psychic shock is very negligible. Nevertheless, any feasible attempt to preserve menstruation under forty is preferable to destructive surgery.

I congratulate Doctor Seaver for the presentation of this timely paper.

THOMAS O. BURGER, M. D. (1301 Medico-Dental Building, San Diego)—Doctor Seaver has done a good piece of work in his careful analysis of one thousand cases in pelvic surgery and has made some valuable deductions. Three problems are presented of most importance to the future safety and comfort of women. (1) The removal of an appendix is a problem of judgment. In most younger women, if too much traumatized or unperitonized areas are not present, it should be done. Do not forget that the controversy as to inversion or not is evidence that the colon bacilli may get through into a fertile field, especially if resistance is none too great. Pathologic reports of incidentally removed appendices are of very varying proportions. Some good pathologists report all (100 per cent) as showing some form of inflammation. (2) Almost 75 per cent of the thousand cases were for fibroids and pelvic infection later (mostly pus tubes). Either or both of these conditions often exist in women who do not require surgery. Many fibroids

are of no consequence and are merely operated on as an excuse. If let alone and the patient not told of their existence, they never cause any harm or mental anguish. A certain number of pelvic infections will become quiescent and, in fact, clear up so that no local or systemic disturbance will follow. This is known to us all, especially if a period of rest in bed and abstinence from a chronically gleety husband is enforced. If these cases are permitted to let nature do her part, function in many cases will be better than it would be if radical surgery was done. I realize that the class of patients in a county hospital are not the same as a clientele of private patients. (3) The third and hardest problem to decide in infection is how conservative or radical one must be. Doctor Seaver has given good logic. Voluminous discussion might be granted to this problem. In the main, the uterine and ovarian tissue should always be conserved. The younger the woman the more this is true. A woman must live with herself, and if she knows her sex organs are gone it matters not how well you may have tried to prepare her before or to convince her later of the absolute necessity of their removal, she will come back with, "Well, I had just as soon be dead"; and particularly so if some doctor has told her that no matter what the trouble was he would never have done a total removal.

The infected uterus does occasionally have to come out later. Quite as often does the ovarian tissue, which you tried to preserve, give so much trouble that a second operation is demanded. But the sum total of misery either physical or psychological of unsexed (?) women, against the four uteri as in Doctor Seaver's series of retained uteri and probably a few from ovarian tissue left, is far in favor of conservatism.

This is merely duplicating and emphasizing Doctor Seaver's deduction or opinions, and cannot be too well kept in mind when such a situation presents itself.

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GEORGE JOYCE HALL, M. D. (502 Physicians Building, Sacramento)—One frequently has to curb the tendency during the discussion of a paper to keep away from personal hobbies and to keep within the subject presented.

Pelvic inflammatory disease in Doctor Seaver's series has, as is generally the case, the highest percentage of cases, and by the same token fibromata has its usual position on the scale. And so with the rest of the series there is a fairly close approximation to the general findings. So that as a matter of fact any discussion must of needs digress somewhat to include opinions expressed other than statistics.

Conservatism has probably a wider field of justification in pelvic surgery than in any other group of cases. The appendix, with its apparently unknown function, has routinely been removed in all short pelvic operations for a number of years, but all gynecologists have found the added time and extra trauma to be a heavy burden to the patient when a long operation has been performed, or if the patient's general condition is poor. So that it has become just as routine a procedure to leave in an apparently normal appendix in recent years, as it was routinely to remove it some years ago.

It has been my opinion in the past that a fibroid uterus with a badly diseased lacerated cervix showing endocervicitis, should be removed in toto. This last three years, however, we have thoroughly cauterized the cervix and its canal, and feel entirely safe in doing a supravaginal hysterectomy. During this same period of time we have completely cauterized the cervix before panhysterectomy for all operable cases of malignancy, even though the specimen is ruined for pathological examination.

Cases which have been previously operated on always cause me a bit of preoperative worry, because so frequently the patient has only a vague idea of the surgery done before, and, too, the inflammatory and traumatic adhesions definitely complicate so many cases. Indelicate and unnecessary handling and "mauling" of the viscera is so unjustifiable and causes

so much other trouble that I believe it cannot be too frequently criticized.

DOCTOR SEAVER (closing)—The above discussions emphasize the present trend toward conservative pelvic surgery.

For some strange reason, woman was so planned that for a certain period of her life menstruation is a normal function. It does not seem to be within the province of mere man to put an end to that function unless absolutely necessary. One dissatisfied woman should be sufficient reason for conservative thought. One hundred and sixty-five, or 63 per cent, is a definite indication for conservative practice. The incidence of the normally menstruating woman will be higher as more of her own sex are admitted to the practice of medicine.

The question of routine appendectomy was mentioned by the three discussants. Here, too, conservatism is in evidence, so that in the future it may be that woman will be permitted to retain her normal appendix. However, when that organ is removed during the course of a pelvic operation the method of procedure seems most important. Some few clinics which advocate routine appendectomy still adhere to the old rule of removing the appendix first, with the idea of preventing contamination from the pelvis. This seems indicated only in cases where the pelvis is the seat of infected pus. No matter who the surgeon is there is always an increased risk to the patient from the time consumed in an appendectomy, and that risk should be taken after the major pathology is cared for and not before.

#### ANESTHESIA—SOME OF ITS POSTOPERATIVE PULMONARY COMPLICATIONS\*

By L. R. CHANDLER, M.D.  
San Francisco

THERE can be no doubt that postoperative pulmonary complications are surprisingly frequent, and often severe. Statistics show that some pulmonary complication develops in one patient in every fifty who is operated upon, regardless of the anesthetic used, and that one patient in every three hundred operated upon, dies as the result of such a complication. To discuss all phases of this subject at one time is too much of an undertaking. However, certain definite types of postoperative pulmonary complications may be recognized clinically, and it is my purpose to present some of these types, to discuss their possible etiology, and to indicate certain measures which might lessen their frequency. Fat embolism and the effect of anesthesia upon pulmonary tuberculosis will not be considered.

##### THE EARLY INFLAMMATORY COMPLICATION

The complication which comes soon after the operation is probably the most common type of postoperative pulmonary complication. It occurs within twenty-four to forty-eight hours after operation, is manifested by a fever which may range from 101 to 105 degrees F., usually unaccompanied by an initial chill. The breathing is rapid, shallow, and the movements of the upper thorax are often exaggerated. There is little or no pain, the pulse is rapid and weak, and the cough is at first unproductive. Rales or signs of consolidation in the lungs are sel-

dom found at the onset of the early complication. During the course of the disease, the cough produces purulent phlegm, loud bronchial râles are heard throughout both lungs, and small scattered areas of bronchopneumonia may appear, usually at one or both bases. The fever falls by lysis, and the patient is usually well in nine or ten days.

Case I illustrates this type of early complication.

CASE I—Mrs. F. S. Age, 38 years. Diagnosis: cholecystitis and cholelithiasis with stone in common duct.

October 2, 1926—Operation: cholecystectomy and drainage of common duct. Anesthesia: nitrous oxide and oxygen, novocain infiltration of the abdominal wall. During the operation the patient's breathing was labored and "grunting" in character, and muscular relaxation was poor. At the close of the operation the patient vomited several ounces of fluid characteristic of an acutely dilated stomach. She coughed several times and became cyanotic, which required the administration of oxygen for several minutes.

After leaving the operating room, the patient's respiratory rate rose to 30-40 per minute, pulse to 120-30, but the temperature remained below 100 degrees F.

October 3, 1926—At 8:45 a. m. the day after operation, the patient coughed up about one ounce of fluid similar to that which she had vomited in the operating room. The temperature had risen to 105.2 degrees F., pulse to 140, and respirations to 32-50. Breathing was shallow with marked movements of the upper thorax. There was no pain, but a moderate, unproductive cough. Examination of the chest showed no râles or signs of consolidation.

The patient then began coughing up mucopurulent sputum and within two days the respirations were free, at the rate of 30 per minute. Loud, harsh, sonorous râles were heard in both lungs the second day. On the fourth day a small area of bronchial breathing and dullness appeared in the posterior part of the lower left lobe. The fever fell gradually, the cough and area of consolidation disappeared, and on the eighth day the temperature was normal and the lungs were clear. The healing of the abdominal wound was not disturbed, and further convalescence was normal. Unfortunately no roentgenograms could be made of this patient, but Fig. 1 shows the variations in temperature during the first ten days.

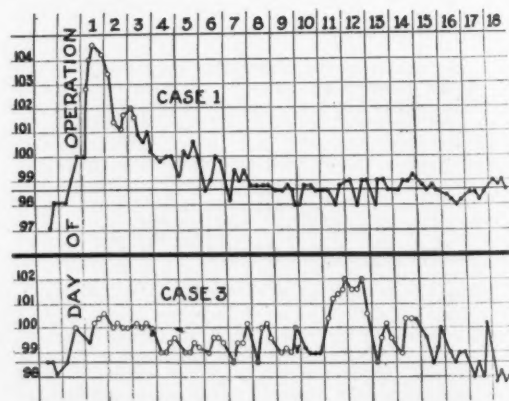


Fig. 1—Contrasting the temperature charts in a case of early inflammatory complication (Case I) and a case of late inflammatory complication (Case III).

Some patients do not have so severe a condition as that shown by Case I, and except for a mild bronchitis no pulmonary disease can be demonstrated. Frequently such mild complications are not recognized and the surgeon blames the operative wound for the patient's fever. Other patients are unable to withstand the severity of the disease, and death occurs at the onset the first or second day after the

\* From the Department of Surgery, Stanford University Medical School, San Francisco, California.

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operation. The early pulmonary complication is not usually followed by empyema, unresolved bronchopneumonia or lung abscess, although such complications do occur. Usually a general anesthetic has been given, with considerable difficulty in its administration. The breathing during the operation is not free and easy, as it should be, and the anesthetist's report often includes such statements as, "relaxation poor," "cough troublesome," "cyanosis moderate or extreme," "vomiting," etc.

Case II illustrates an early pulmonary complication followed by an area of unresolved bronchopneumonia in which a pulmonary abscess developed. It is interesting that this patient had suffered with chronic bronchitis and mild attacks of asthma for several years.

CASE II—Mr. J. L. Age, 45 years. Diagnosis: cholecystitis and appendicitis.

February 23, 1926—Operation: cholecystectomy and appendectomy. Anesthesia: ether with nitrous oxide induction. The anesthetist's report states that the patient's breathing was difficult, labored, and diaphragmatic in type. There was moderate cyanosis, and muscular relaxation was poor.

February 24, 1926—The day after operation the patient complained of difficulty in breathing, but not of pain. His temperature rose to 105 degrees F.; pulse, 120-132; respirations, 26-32. Examination showed many coarse râles in both lungs and a small area of distant breath sounds at the right base. A roentgenographic examination showed some hazy patches of consolidation at the middle and lower portions of the right lung field. This was interpreted as an area of bronchopneumonia.

The next day the patient had an unproductive cough and fever of 103 degrees F., with no change in the pulmonary signs. The fever continued from 100 degrees F. to 101.6 degrees F., for eighteen days, when the temperature rose to 103 degrees F., and the area of consolidation at the right base was found to be increased. On the twenty-second day the roentgenographic examination showed an air-filled cavity in the axilla, under the sixth rib. The cavity measured 5 cm., and was half-full of fluid. (See Fig. II.)

The lung abscess was drained by rib resection. Five weeks later the patient was dismissed from the hospital.

Comparing Cases I and II, the pulmonary complication began in both cases within twenty-four hours after operation with a very high fever and comparatively few signs in the lungs. Case I recovered in nine days, but in Case II a lung abscess slowly developed. The complication in this instance was probably dependent upon the pre-existing pulmonary disease.

#### THE LATE INFLAMMATORY COMPLICATION

Another form of pulmonary complication is that which occurs several days after the operation, preceded by an interval of uncomplicated convalescence. The most frequent time of occurrence is on the eighth to the twelfth day, although some cases of this type occur as soon as the second day or as late as the third week. The onset is sudden, the patient frequently dating it to a certain hour. Pain throughout one side of the chest is the first complaint, made worse by deep breathing or body movements; consequently breathing is shallow and rapid. Cough is painful, and about one-third of these patients have blood-tinged sputum. A moderate fever, 102-103 degrees F., usually of the septic type, develops. Examination of the chest soon after the onset of symptoms frequently shows a friction rub, diminished breath sounds, and dullness to percussion over a restricted area. This area of consolidation may be in any part of the lung, upper, middle, or lower, but it is most frequently seen in a lower lobe. In the course of the disease, pain may remain a prominent feature, the fever falls gradually, and the signs of consolidation slowly disappear.

The following case illustrates this late inflammatory complication:

CASE III—Mr. P. S. Age, 28 years. Diagnosis: appendicitis, chronic. Operation: August 13, 1925. Appendectomy and exploration of abdomen. Anesthesia: ether with nitrous oxide induction.

The recovery was uneventful for ten days, temperature never above 100 degrees F. after the first day, and

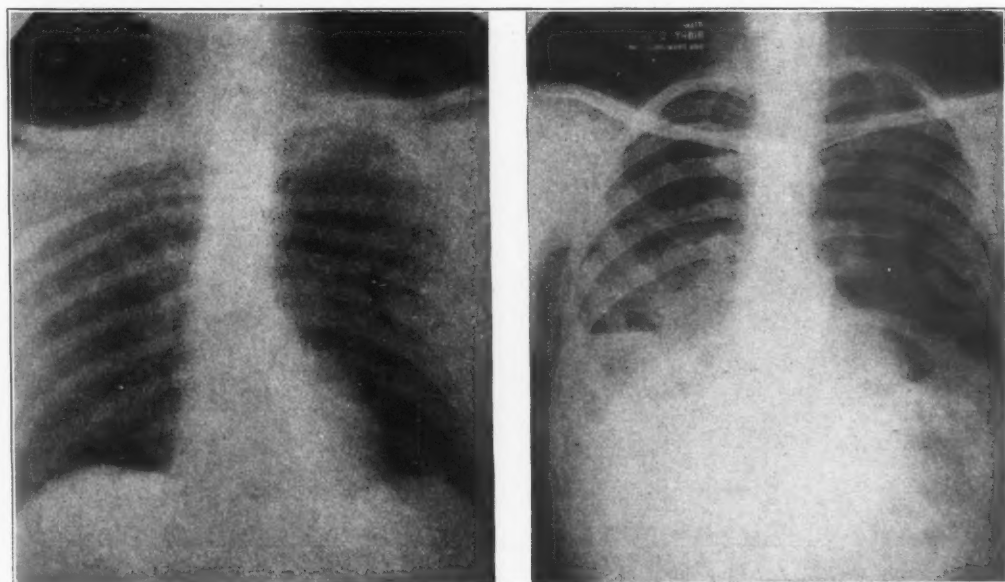


Fig. II—Case II—Early Inflammatory Complication. The film on the left was made the day after operation, when the pulmonary symptoms appeared. Note the moderate density in the right lower lobe. The film on the right was made twenty days later. A large abscess cavity half-full of fluid is seen in the right lower lobe.

the patient had no complaints. However, at 5:30 a. m. of the eleventh day after operation, the patient had a sudden attack of severe sharp pain all over the left side of his chest, radiating to the left shoulder, made worse by breathing or body movements, but he did not cough. The temperature rose to 102.2 degrees F., pulse to 100, and the respirations to 22 per minute. The leukocytes numbered 16,000 with 86 per cent polymorphonuclears. Examination of the chest showed a limited excursion of both bases with bronchial breathing, dullness and râles at the angle of the left scapula, and a friction rub heard in this area. The following day the roentgenologist reported, "The costodiaphragmatic angle is denser on the left than on the right. There is pleural thickening at the left base, with a small amount of fluid posteriorly."

The daily fever, pain on deep inspiration, and signs of consolidation disappeared slowly, and the patient was not dismissed from the hospital until twenty-five days after the onset of his pulmonary complication.

The temperature charts of Case I illustrating the early inflammatory complication, and Case III illustrating the late inflammatory complication, are seen in Fig. I.

The late pulmonary complication may follow operations under local as well as general anesthesia. It is frequently accompanied or followed by empyema, or lung abscess, is frequent after abdominal or pelvic operations and operations on the throat, mouth, or neck. During the interval between the operation and the onset of the attack there frequently is a slight fever, seldom more than one degree. That the severity of the attacks vary is to be expected, and the dreadful disaster of massive pulmonary embolus with sudden death is only too well known to all clinicians. The other extreme, a sudden attack of pleurisy lasting twenty-four to forty-eight hours, with little or no fever, is a fairly common occurrence.

Case IV illustrates a late complication which resulted in empyema and lung abscess.

CASE IV—Mr. G. A. Age, 35 years. Diagnosis: tonsillitis, chronic.

February 10, 1921—Operation: tonsillectomy and ad-

enoidectomy. Anesthesia: ether with nitrous oxide induction.

The convalescence was uneventful for four days, the temperature never above 100 degrees F. On the fifth day, there developed pain throughout the right chest, fever, and cough with bloody sputum. Examination of the chest showed an area of dullness at the right base, and diminished breath sounds and bronchial breathing in the same area. The condition grew worse, a pleuritic rub developed, and on February 21, the sixth day after the onset of pain, the roentgenologist reported an area of density, somewhat triangular in shape, at the right base. The fever and leukocytosis increased. An empyema and a gangrenous abscess of the lung developed, and the patient was operated upon four times before he was cured.

Fig. III shows the pulmonary condition six days and forty days after the onset of the pulmonary complication.

#### POSTOPERATIVE MASSIVE COLLAPSE OF THE LUNG

A third type of pulmonary complication, called "postoperative massive collapse," is considered separately because it does not seem to be inflammatory. It presents characteristic signs and symptoms. The attack usually comes within a few days after operation. There is respiratory distress, with short rapid breathing, pain in one side of the chest, moderate fever, rapid weak pulse, and a cough which is at first dry and unproductive. Examination of the chest shows almost complete lack of motion on the affected side, and retraction of the fossae and intercostal spaces is seen in many cases. The heart is greatly displaced toward the affected side, the affected lung is dull to percussion, and the breath sounds and fremitus are markedly diminished or absent. This condition is seldom fatal, and a majority of cases return very quickly to nearly normal. This disappearance of signs and symptoms is often preceded by the patient's coughing up a considerable quantity of thick mucus, and the improvement frequently takes place in the course of a few min-

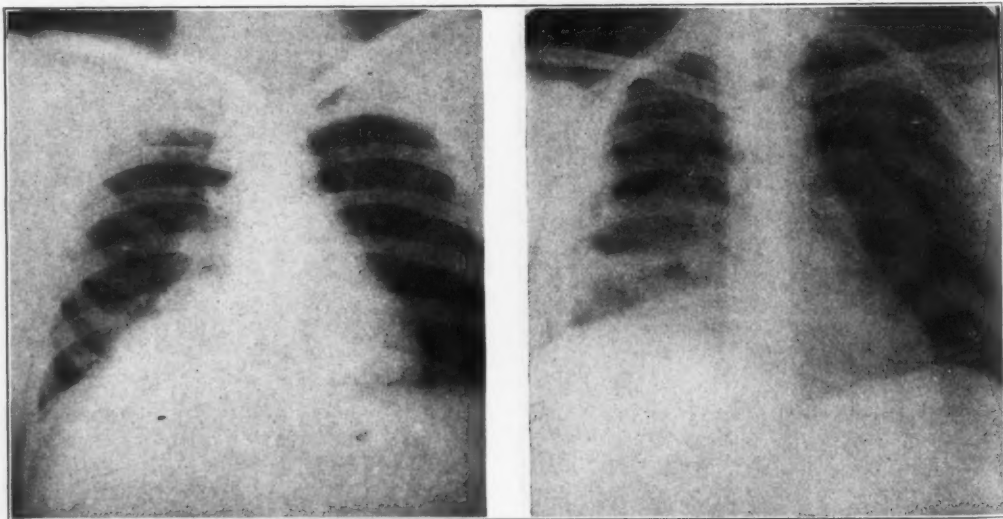


Fig. III—Case IV—Late Inflammatory Complication. Pulmonary symptoms appeared five days after the operation. The film on the left was made six days later (eleven days after the operation). Note the consolidation in the mesial portion of the right lower lobe.

The film on the right was made forty days after the onset of pulmonary symptoms. Heavy pleural thickening persists after drainage of empyema. A gangrenous abscess has developed in the right lower lobe.

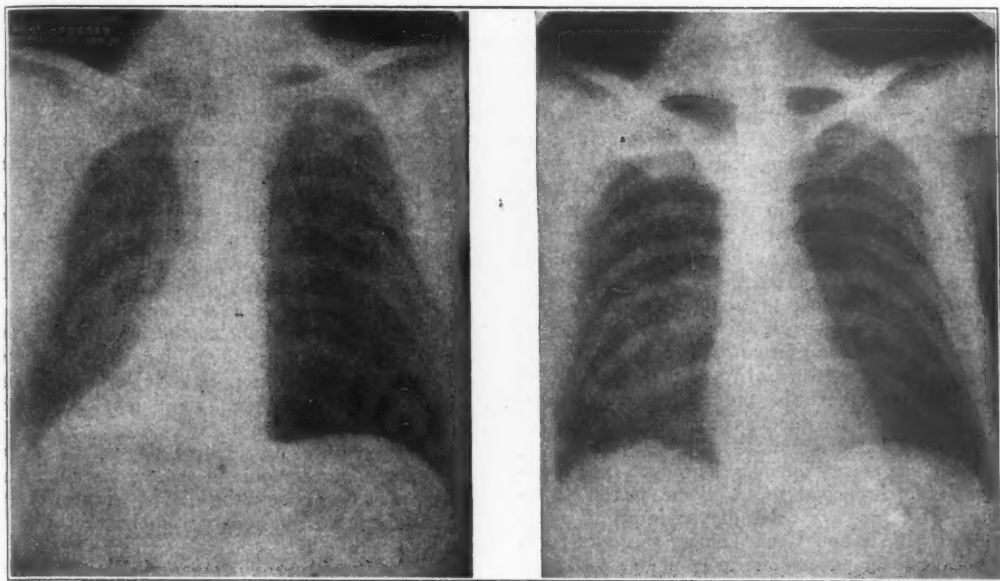


Fig. IV—Case V—Postoperative Massive Collapse. The film on the left was made the day after operation, when the pulmonary symptoms appeared. Note the small volume and relatively airless condition of the right lung, the pulling in of the ribs on the right, the marked displacement of the heart and mediastinum to the right and the upward displacement of the right side of the diaphragm.

The film on the right was made twenty-four hours later. The right lung has re-expanded spontaneously, leaving, however, a little consolidation in the inner portion of the lower lobe.

utes. In other patients the improvement is gradual and the signs disappear slowly.

Case V illustrates "Postoperative Massive Collapse" in a patient recovering spontaneously.

CASE V—Mr. I. L. Age, 38 years. Diagnosis: carcinoma of stomach. Operation: February 18, 1926. Pylorectomy and gastrojejunostomy. Anesthesia: ether with nitrous oxide induction.

At 3 the next morning, February 19, 1926, the patient complained of shortness of breath, irritation in his throat, and inability to clear his throat by coughing. By 9 o'clock his breathing was labored, the accessory muscles of respiration were being used, and there was moderate cyanosis. The respirations were 32 per minute, the pulse 140, and the temperature 102.4 degrees F. Examination of the chest showed the movements of the right side markedly limited, and the clavicular fossae retracted. The cardiac movements were visible on the right, but the apex beat could not be seen or felt. The right lung was dull to percussion, and the breath sounds and fremitus were greatly diminished. Roentgenograms taken that morning were reported: "The whole right lung field is rather grey. The heart and mediastinum are displaced far to the right. The left lung field is not remarkable." The patient's condition remained unchanged throughout that day, February 19, 1926. During that night, however, he coughed up a considerable quantity of thick mucus, and was relieved almost immediately of his respiratory distress. Examination the next morning, February 20, 1926, showed both sides of the chest moving freely and that the retraction of the right clavicular fossae had disappeared. His color was good, both lung fields were resonant, the respiratory rate was 22, and the temperature was 100 degrees F. The second roentgenogram, made just twenty-four hours after the first one, showed the right lung field expanded again to nearly normal volume, and the mediastinum returned to the midline. The lower mesial portion of the right lung field showed a fuzzy, finely mottled density suggesting consolidation. This patient's condition was good from that time on, and except for a mild cough for three days he had no complaints and there were no signs of pulmonary disease.

Fig. IV shows the lung during collapse, and

twenty-four hours later, when it is almost completely inflated again.

#### COMMENT

A study of the literature shows that the causes of postoperative pulmonary complications are not agreed upon, as many different opinions have been expressed. Foremost among these are direct pulmonary infection or irritation, pulmonary embolus and infarction, and lung deflation or collapse.

The early inflammatory complications, frequently called "ether pneumonia" "postoperative pneumonitis" or "surgical bronchopneumonia," seem to have the widest variety of causes ascribed to them. The anesthetist is most frequently blamed for this type. Certain it is that most of these patients have had a general anesthetic, which was unsatisfactory in many cases, even though skilfully given. The fact that chilling during or following an operation often plays a part, cannot be overlooked. That pre-existing pulmonary lesions, either acute or chronic, are often made worse by a general anesthetic is also recognized. I believe that aspiration during general anesthesia has received a little more than its share of the blame. The experimental work of Lemon,<sup>1</sup> and the observations of many anesthetists during oral or pharyngeal operations, shows that practically every patient under general anesthesia aspirates the secretions of the mouth and throat, at least into the trachea, if not into the bronchi. Not all of these patients develop a bronchitis or pneumonia, however, so aspiration of the oral secretions seems insufficient as a cause. Open foci of infection in the mouth at the time of operation is also considered a possible cause of lung infection, by some authors. The aspiration of stomach content, vomited while the patient is still unconscious, surely influences, if

it is not entirely responsible for some postoperative pulmonary disturbances. This is particularly true in patients suffering from an acute dilatation of the stomach, and in cases of intestinal obstruction.

Pasteur<sup>2</sup> and Briscoe<sup>3</sup> believe that collapse of a part of one or both lower lobes is responsible for most of these early complications. Briscoe shows that deflation is a consequence of the prolonged supine position in certain types of individuals, and occurs during sleep as well as anesthesia. Others believe that operations which interfere with the movements of the diaphragm, or cause its temporary fixation, are responsible for the deflated lung.

Whipple<sup>4</sup> and Cleveland<sup>5</sup> have found Type IV pneumococcus in the sputum, both before and after operation, in a large majority of patients developing an early postoperative pulmonary complication. They do not find the pneumococcus in those patients who develop a late complication.

Pneumonia is very difficult to produce experimentally by the bronchial route. Some success is reported when massive doses of the infecting agent are used. Blake and Cecil<sup>6</sup> report successful production of lobar pneumonia, in monkeys, with very small doses of pneumococci, given intratracheally. Lobar pneumonia is not a common occurrence following operation, however, and here on the Pacific Coast it is extremely rare.

The process of venous thrombosis and embolism is well known to all physicians, and most of us are acquainted with sudden death from a pulmonary embolus. There seems to be little doubt that this same process may be responsible for many of the less dangerous pulmonary complications. The term "pulmonary infarction" is commonly given to the late complications. Fetterolf and Fox<sup>7</sup> have shown that extensive thrombosis of the veins in the neck regularly follows tonsillectomy. Cutler and Hunt<sup>8</sup> report a series of these late complications, and point out that such complications are most frequent after operations on some part of the body that is freely movable, e. g., abdomen, throat, jaw, groin, and seldom occur following a craniotomy, for example, where the tissues are anatomically splinted. An embolus may be dislodged during the course of an operation, or as late as the third week following operation, but the most frequent time is from the eighth to the twelfth day.

Holman, Chandler, and Cooley<sup>9</sup> have recently reported a series of lung abscesses, both pyogenic and tuberculous, produced in dogs, after the method first described by Holman.<sup>10</sup> They produced the abscesses by introducing an infected embolus into the circulation through the jugular vein. The course of the pneumonic disease produced in these animals receiving emboli infected with pyogenic organisms is so similar to the late type of postoperative pulmonary complication that an analysis of this experimental work is justified.

Quoting from the experimental report: "The effect of introducing a pyogenic embolus into the venous circulation differs widely in different animals. There may occur only a local consolidation and pneumonitis about the embolus, with early and complete recovery and no permanent pulmonary damage. Hemorrhagic infarction may occur fol-

lowed either by recovery, or by formation of an abscess and then recovery. In other instances abscess formation is followed by death, probably due to a complicating septicemia. There may occur also a massive hemorrhagic consolidation brought on by interference with the circulation of the affected lobe, incident to an extensive thrombosis of the pulmonary artery proximal and distal to the embolus."

In those experimentally produced pulmonary infarcts and abscesses the consolidation was present soon after the embolus was introduced. The fever and leukocytosis gradually increased, and lung abscess developed about six days after the introduction of the embolus. The embolus, introduced with the animal in the supine position, lodged in the left lower lobe fourteen times, right lower lobe eleven times, left upper lobe twice, right upper lobe once, and right middle lobe once.

Thus the clinical features of the results of infected pulmonary embolus in the experimental animals parallel very closely the clinical features of the late postoperative pulmonary complication that I have reported.

Several writers have given several different causes for postoperative massive collapse. Most cases reported have followed general anesthesia, but we know that massive collapse of the lung may follow gun-shot wounds outside of the chest, and it sometimes follows diphtheria. In neither of these latter conditions have the patients been anesthetized. Such conditions as reflex spasm of the bronchioles, fixation of the diaphragm with retraction of the chest wall, and plugging of the bronchi by thick mucus have been given as causes of collapse. Briscoe<sup>3</sup> says: "Postoperative massive collapse is produced by the onset of inflammation, affecting the pleura over the diaphragm, or the muscles of the crus situated behind the diaphragm, in an individual in whom the lower lobes are already deflated." On the other hand, Tucker<sup>11</sup> demonstrated that bronchial obstruction is caused by tenacious mucus, in cases of massive collapse, and that function is quickly restored to the lung by the bronchoscopic removal of this obstruction.

I do not know that anyone has successfully produced massive collapse in animals.

I do not believe there is any single cause which will account for all the cases of the early inflammatory complications. I think that most cases are caused by a combination of several of the previously mentioned factors. Some of these factors may occasionally act as the sole factor. I believe the majority of the late type are caused by emboli, the severity of the result depending upon the size of the embolus, whether or not it is an infected embolus, and upon the condition of the lung in which it lodges. I do not venture an opinion as to the cause of massive collapse, but the work of Tucker in removing mucus plugs from the bronchi in such cases is very convincing.

How can we prevent these complications? I do not believe that we can ever prevent all of them. Nevertheless there are a good many things we can do which might lessen their frequency. If possible the patient's stomach should be empty before a general anesthetic is given. In cases of gastric reten-

tion or bowel obstruction, gastric lavage should be performed before the patient is asleep, not during the course of the anesthetic.

Pre-existing pulmonary lesions should be carefully searched for, and a patient with any infection of the respiratory tract should not be given a general anesthetic if it can be avoided. The anesthetic should be given with such skill as to maintain even muscular relaxation, preventing the return of the pharyngeal reflexes during the operation, and preventing cyanosis, whenever this is possible. The position of the patient during operation favors a stormy postoperative convalescence in many instances. The use of pillows, sand-bags, and other apparatus is frequently demanded by the surgeon, that he may secure a better exposure of his operative field. The use of such apparatus should be discouraged whenever it will interfere with the movements of the diaphragm or the aeration of the inferior lobes of the lungs. To have the patient in a sitting position during general anesthesia is an almost criminal procedure. The position of choice is a slight Trendelenburg's position. Suction should be used to prevent aspiration during all operations on the mouth and throat. The patient should not be chilled or exposed to cold air during or for several hours after an operation.

The surgeon should not begin his operation before the patient is properly anesthetized. He should be gentle in his manipulations and in handling the tissue. All measures to prevent wound infection should be vigorously enforced to limit the chances of venous thrombosis. Intelligent postoperative care and observation may prevent the dislodging of a thrombus.

Such procedures as I have suggested are not new, but are frequently overlooked or carelessly observed, and they require cooperation between the anesthetist and the surgeon. The more the surgeon knows about the art of giving an anesthetic, and the anesthetist knows about the patient's disease and general physical condition, the more effective will be this cooperation.

#### CONCLUSIONS

1. Postoperative pulmonary complications are frequent, and they may be severe.
2. Such complications occur after operations under local anesthesia as well as under general anesthesia.
3. There is no single cause of all postoperative pulmonary complications, but the possible causes have been reviewed.
4. The prevention of all postoperative pulmonary complications seems impossible, but measures which might lessen their frequency have been suggested.

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## THE SUPERVISION OF DIAGNOSTIC LABORATORIES

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INCREASING attention is being given in different states to the need of some sort of supervision of clinical and public health laboratories. Realization of this need was first appreciated or at least first manifested by official public health agencies. The health department of New York State was the first to inaugurate a system of laboratory control, and California was, I believe, the second in line, with the action of the State Board of Health in 1923 in authorizing the Hygienic Laboratory to initiate a system of voluntary certification.

The need for protection of the people and their physicians and health departments against a low standard of service in this important field is evident to every competent laboratorian and to every physician who is himself sufficiently in touch with laboratory methods to recognize ignorance and charlatanism when it appears in the guise of diagnostic laboratory service; for there are charlatans in diagnostic laboratories as there are in the general field of medicine.

#### METHODS OF SUPERVISION

The only difference of opinion likely to arise concerning this subject is in the matter of how supervision should be brought about; whether by legislative enactment or by exercise of general powers by some official body having such general powers as the Board of Health, or by a system of voluntary cooperation on the part of the laboratories with some self-appointed central source of control such as the Board of Health, other state commission, or the laboratories themselves. Another alternative would be to leave it to the slow process of natural evolution through growing understanding on the part of physicians and an awakening consciousness of responsibility on the part of the laboratorians. If it were the regulation of the practice of medicine that was being considered it goes without saying that the last method would be generally accepted by nobody but the charlatans themselves. Why physicians should not apply to their laboratory workers the same reasoning regarding the necessity of adequate education and experience that they apply to themselves, is something of a puzzle. It is doubtless to be explained by lack of thought and attention that is given this specialty of medicine by the profession in general. Whatever the explanation, it is a fact that less concern is shown by the average individual physician in routing his specimens to a laboratory and by the average group or hospital in employing a laboratorian than to almost any other type of service they make use of. The influences that determine the physicians' choice are, without question, generally the same that influence patients in selecting their physicians. For some the sign on the door is sufficient or the statement of the applicant for a job that he or she is a bacteriologist, or that he or she is fresh from the laboratory of some "hospital." True, the former job may have been that of dish washer, but this is ordinarily not gone into. Others may be more cautious; they may require the recommendation of someone else no more qualified than

they to decide on the technical qualifications of the seeker after employment or referred business. A few will pursue the course adopted by a very few patients in choosing their physicians; seek the advice of someone who has special knowledge in that particular line. Such things as personal appearance, convincing manner, a line of "patter" suggesting technical knowledge, a pleasing personality, are just as effective in "selling" the laboratorian to the physician as in "selling" the physician to the patient.

#### TRAINING STANDARDS OF TECHNICIANS

The obvious remedy for such a situation is enlightenment of physicians and others patronizing laboratories or employing laboratory workers to such facts as these:

1. A technician cannot secure competency by working in *any* laboratory for a period of two months or four months or six months.
2. An education in the basic sciences of chemistry, bacteriology, biochemistry and pathology is even more necessary than for the practice of medicine.
3. Experience under competent supervision is necessary even after the best of college courses.
4. The statement of an individual regarding his qualifications or the recommendation of an acquaintance who is not himself a specialist in the laboratory field is not a safe way to decide.
5. The average physician, health officer or hospital executive is not prepared to pass on the qualifications of a laboratorian and, therefore, must have some method of distinguishing the competent from the incompetent.
6. If it were possible to have a thermometer that reversed the temperature readings, a stethoscope that announces rales when there are none, or a pleximeter that gives forth a hollow sound over an area of pulmonary consolidation, the consequences would be serious, but not more so than reliance on the laboratory work of some persons, who find no difficulty in making a living as clinical laboratorians.

When the realization of such facts becomes enough, some form of official control of laboratories or licensing of laboratory workers will be demanded by the medical profession. Perhaps before that time the better laboratories will themselves have initiated the movement. Until that time it seems incumbent on those having a knowledge of the facts and who are at the same time in a position to improve conditions, even in a limited way, to take such action as their judgment dictates.

#### PRESENT PLAN OF CALIFORNIA CERTIFICATION

In line with this conception of their duty as guardians of the public health, the California State Board of Health initiated in 1923 the existing plan of laboratory certification, and the result has been very gratifying. There are at the present time sixty-one laboratories in the state that have been inspected, approved and have had certificates issued to them.

In the operation of this division of the work, an application for certification is followed by a personal visit to the laboratory by the director of the State Hygienic Laboratory. The applications are made in writing on a special form provided by the department. In this application, questions are answered regarding educational qualifications and experience of the director, the number of employees, the physical equipment of the laboratory, types of work performed, etc. The applicant also agrees to keep careful records of work done, including the pres-

ervation of certain stained slides for a definite period, and to submit to inspection as required. It has not been considered necessary or advisable to require particular methods of examination, but if the method in use is not considered a safe or effective one, approval for that particular examination is withheld, unless an approved method is adopted.

Under the regulations of the board, the director of a laboratory, if not the owner, must have full authority to control the policy of the laboratory, so far as technical matters are concerned. The records that are required to be kept are those pertaining to the examination of specimens, such as results, name of patient, who submitted the specimen, etc. The recording system must also be such that any particular slide can be readily found and connected up with the case. Financial matters, fees for examinations, etc., are not inquired into. Changes affecting the directorship, removal of laboratory to new location, radical changes in technique and discontinuance of tests previously approved must be reported to the director of the Hygienic Laboratory. Certificates are issued to the responsible head of particular laboratories and do not apply to other laboratories even when under the same management.

#### ULTIMATE SOLUTION OF THE PROBLEM

The writer believes that while the present system of voluntary certification is having a good influence, principally educational, and has resulted in several specific instances in improving local laboratory service materially, the ultimate solution of this problem rests in state regulation of the qualifications of laboratory workers. This is really more important than the insurance of competence in laboratory directors. A technically competent director may not always be a good administrator, and this is something against which no system possible can ever insure. Political influences in municipal laboratories may interfere with the freedom of choice of workers and in private laboratories the necessity of making the business pay, influences the salaries paid and the quality of service received.

The approval of laboratories by the American Medical Association is a step in the right direction, but excellent as it is, and useful as it undoubtedly will become, it is only a step and only applies to commercial laboratories. Like the California plan, its chief advantage will be educational, but it is nation-wide in scope, a distinction that establishes it as a useful institution regardless of any possible development of perfection in state methods.

#### IN CONCLUSION

We should, in short, have a standardization of the workers, not the institutions. Administratively, the licensing of workers could be placed under the Board of Medical Examiners, the Board of Health or a special board, or under the department of education. Presumably any such board would, even if this were not provided for in the legislative act, employ experts in the various lines of laboratory work to pass on the credentials of applicants for registration. Since the sciences concerned in diagnostic laboratory methods are among the basic medical sciences, it would seem reasonable to regard such laboratories as practicing a specialty of medicine, and

their regulation, therefore, as coming under the supervision of the medical licensing authority. However, the fact that the State Board of Health of California already maintains a laboratory bureau and has already taken cognizance of the situation makes the placing of the licensing of laboratorians under that division of the state government a reasonable plan for California. Such details naturally will be worked out differently in different states; the essential thing is the examination and licensing of individuals rather than institutions. Different classes will, of course, be necessary, covering different kinds of work, knowledge of which is not always combined in the same individual. Cellular pathology, biochemistry, bacteriology, serology, immediately suggest themselves as separate divisions, and applicants would apply for one or more certificates, according to their training and experience.

The problem is up to the medical profession and laboratory directors, and it is inconceivable that opposition can come from any but those having reason to fear the operation of such a measure.

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#### ANESTHESIA IN UROLOGIC SURGERY\*

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THE choice of anesthetic in urologic surgery is a matter of concern to the internist, surgeon and anesthetist and has been the subject of much discussion and investigation in the past few years. That ether and chloroform inhibit kidney function is a well established fact, explained by Cushny as being due to the reduced blood pressure and impaired aeration of blood.

#### USE OF MORPHIN AND ATROPIN

The great progress that has been made in the development of local anesthesia makes it the ideal method for the selected patient but for the large proportion of cases, where general anesthesia is necessary, nitrous oxide best meets the requirements of urologic surgery. Unlike ether and chloroform, it has no effect upon blood pressure, other than to cause a rise during secondary saturation when the oxygen percentage is reduced. As nitrous oxide is not eliminated by the kidneys, its obvious advantage has caused it to be the anesthetic of choice in most urological clinics where a general anesthetic is indicated. The question, therefore, of withholding the preliminary morphin, which influences so strongly the course of nitrous oxide anesthesia, becomes a matter of great interest to the anesthetist.

The work done by Haines and Milliken in the Surgical Research Laboratory and the Department of Urology, Graduate School of Medicine, University of Pennsylvania, on the subject of the renal effects of morphin and atropin with ether anesthesia, suggested a comparison with the results under nitrous oxide and oxygen. Seeking in their experiments to obtain a criterion of the operability of pathologic cases, functional tests with intravenous

indigo carmin were made, with and without morphin and atropin both appearance time and elimination being estimated, the latter being measured at three twenty-minute intervals. The results of these tests in six typical cases proved that elimination was slightly better after the injection of morphin and atropin as shown by appearance test and percentage of dye eliminated.

A series of six dogs were injected intravenously with indigo carmin after thirty minutes of deep ether anesthesia, the etherization being then continued. Twenty minutes was the earliest appearance of the dye. The same dogs a week later were given morphin and atropin half an hour before etherization and the appearance time was four and five minutes, which was as soon as in the control cases and normal unanesthetized dogs. They conclude from these experiments that morphin and atropin in the usual hypodermic dose does not affect the kidney function unfavorably and that in dogs it prevents the inhibition produced by ether. Because of the supposed retardation of urinary secretion produced by morphin and atropin, it has been customary to omit it in cystoscopies and ureteral catheterizations under nitrous oxide. This investigation was undertaken to determine whether nitrous oxide anesthesia inhibited kidney function and if so whether morphin and atropin prevented this inhibition, as in the case of ether.

Cystoscopies in adults are usually done under some form of local anesthesia but here again the preliminary morphin would be of great value for the preoperative psychic effect and postoperative relief from pain, if it proves not to interfere with kidney function. Morphin is frequently the determining factor in the possibility of obtaining muscular relaxation under gas anesthesia and if, as Haines and Milliken suggest, it does not interfere with elimination, then urologic operations, which contraindicate ether and where complete muscular relaxation is necessary, such as perineal and supra pubic prostatectomies, nephrectomies and operations on the bladder, as well as cystoscopies and ureteral catheterizations, may be done under nitrous oxide without the addition of ether.

The evaluation of the preoperative use of morphin in general surgery is still a matter of controversy. That anesthesia is immeasurably benefited by its circulatory sedation, muscular relaxation, control of mucus production and the prevention of apnea, due to psychic effect and slowing of respiration, is generally accepted.

One of the outworn traditions, that of its danger to children, is being gradually discarded. In the Children's Hospital, morphin and atropin, in properly graded dosage, is given almost as routine before tonsillectomies and, covering a period of thirty years, the records show no fatalities. Formerly, two years was the lowest age limit for nitrous oxide, even for induction, with the gas ether sequence, but the increasing number of infants and young children in whom cystoscopies for diagnostic purposes were found necessary, led to the use of gas. Time is an important element in the safety of anesthesia in infants and the difficulty of ureteral catheterization, with the occasional necessity for repetition at short

\* Read before the Anesthesiology Section, California Medical Association, at the Fifty-Sixth Annual Session, April 25-28, 1927.

intervals, positively contraindicate the use of ether.

Hugh Young, in his recent work, deplors the fact that the diagnostic methods of modern urology are rarely called into use for the benefit of very young children and urges propaganda to prove to clinicians the desirability and simplicity of these methods. No doubt this attitude on the part of urologists is due to a realization of the dangers of ether and chloroform and the impracticability of local anesthesia in this class of patients with a lack of knowledge of the advantages and safety of nitrous oxide anesthesia.

#### ANESTHESIA IN SEVENTY-SIX CHILDREN

A review of seventy-six cystoscopies on female patients done at the Children's Hospital, San Francisco, showed the following results:

Ages 5 months to 72 years.

Five cases under 1 year.

Seven cases between 1 and 4 years.

Ten cases between 4 and 10 years.

Sixty-three patients were given nitrous oxide and oxygen, ten of these having varying amounts of ether in addition and five straight ether with gas induction, five being done under local anesthesia.

The functional kidney tests with indigo carmin or phenosulphonephthalein made in these cases for diagnostic purposes unfortunately have no significance in this inquiry as there is no opportunity for comparison. The records, however, of voluntary micturition following anesthesia show some interesting results.

One patient, aged 5 months, who was cystoscoped four times under nitrous oxide and oxygen for periods of twenty-five minutes to one hour, twenty minutes, voided one to two and a half hours later.

Another, 5 months old, forty minutes under nitrous oxide, voided three hours later.

A six-months-old case, nitrous oxide and oxygen for one hour, five minutes, who was given 1/700 gr. atropin, voided four hours after anesthesia and a week later after forty-five minutes of gas without atropin, in three and a half hours.

A patient of 32—nitrous oxide and oxygen for thirty minutes, given M. S. gr. 1/6 without atropin preoperatively and again ten minutes after anesthesia, voided in two hours.

One, eighteen-year-old, given M. S. gr. 1/4 and atropin 1/150, preliminary to forty minutes of nitrous oxide, voided in one hour.

A resumé of the times of voluntary micturition shows a noticeable retardation in the cases where ether was used, a slight one with atropin and none with morphin alone.

Observation of two cases in which the phenosulphonephthalein functional test of 1 cc. intramuscular injection was made, gave these results:

Adult—Cystoscopy and ureteral catheterization under nitrous oxide and oxygen; fifty minutes. Appearance test made at end of anesthesia, ten minutes, and a week later with no anesthetic the appearance time was the same.

Three-year-old girl—Cystoscopy and ureteral catheterization; nitrous oxide and oxygen, fifty

minutes, appearance test made at end of anesthesia; twelve and a half minutes and without anesthesia twelve and a quarter minutes. No morphin or atropin was given in these cases.

The cases are too few to justify any conclusions being drawn, but the results would seem to show that nitrous oxide causes no appreciable inhibition of kidney function. The effect of morphin is somewhat contradictory, two of the cases show a retardation and one an acceleration of the appearance time.

#### EXPERIMENTS IN DOGS

In the Hooper Research Department of the University of California the work of Haines and Milliken was duplicated on a series of dogs, using nitrous oxide anesthesia instead of ether.

The dogs of approximately the same weight were injected intravenously with 1 cc. of phenosulphonephthalein without anesthesia and the appearance time noted. Two days later the test was repeated under nitrous oxide anesthesia, and after the same interval a third test was made under nitrous oxide anesthesia preceded by morphin gr. 1/4 and atropin Gr. 1/600, given ten minutes before anesthetization, with the following results:

	I Male puppy	II Male fox terrier	III Female tan dog
1 cc. phenosulphone-phthalein intravenously .....	Appearance time 4 min.	4 min.	8½ min.
1 cc. phenosulphone-phthalein intravenously .....	Appearance time 6 min.	3 min.	7 min.
	Length of anesthesia		
N <sub>2</sub> O and O .....	36 min.	13 min.	17 min.
Morphin gr. 1/4; atropin gr. 1/600; phenosulphone-phthalein intravenously .....	Appearance time 11 min.	6 min.	6 min.
	Length of anesthesia		
N <sub>2</sub> O and O .....	28 min.	22 min.	18 min.

Hypodermic of morphin and atropin given ten minutes before anesthetizing the animals.

Animals anesthetized for ten minutes or more before injecting the dye.

Further research is needed to establish the action of morphin on renal function.

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**Autogenous Vaccine**—Deadly Snakes Now Conquered by Science is the title of an interesting article in the *Science News Letter* for June 4 by Raymond L. Ditmars, curator of reptiles at the New York Zoological Park. Doctor Ditmars recently sailed for Algiers, to see there, according to reports in the New York papers, for a second time a native snake charmer who permits the deadly cobra to bite his nose. Doctor Ditmars is reported to have stated that he believes this Algerian snake charmer immunized himself in early youth and so became permanently impervious to snake bites. In an interview published in a recent issue of the New York *Herald Tribune* Doctor Ditmars is reported as having revealed that at least one American, Colonel M. L. Crimmins, U. S. A., retired, has immunized himself against rattlesnake bites. This has been done so successfully that he has used his own blood as a serum when other persons in Texas were bitten, and the emergency of regular serum had run out. The remedy was effective and scientists are studying the circumstances closely.—*M. J. and Record.*

When the baby is SIX MONTHS OLD have your DOCTOR give TOXIN-ANTITOXIN to PREVENT DIPHTHERIA.—United States Public Health Service.

## BEDSIDE MEDICINE FOR BEDSIDE DOCTORS

An open forum for brief discussions of the workaday problems of the bedside doctor. Suggestions for subjects and discussants invited.

### POLIOMYELITIS

**Bert Thomas, Sacramento**—My remarks on this round-table discussion will accentuate only one point in treatment—immobilization. By this I refer not to the haphazard pillow-splint or partial, short-time rest. On the contrary, my dictum is immediate plaster. Complete rest under plaster should be continued for at least one month following the onset of paresis. Then start gentle surface massage; if there is any pain connected with this maneuver discontinue it immediately and return to strict plaster rest until no pain is produced by such treatment.

In the flare-up of 1925 it was my privilege to have contact with eleven cases, six of which were under my immediate care. Urotropin, phenacetin, heat, supporting fluids, and immobilization were all employed, but I feel that the satisfactory results were due to the use of plaster alone.

Before one may satisfactorily follow through with the supervision of his patient the routine suggested, he must thoroughly explain the reasons for it, and so gain the complete confidence of the family. The most difficult point to overcome will be the one so often encountered in the treatment of head injuries: "Why don't you do something?" Bring home the fact daily that any positive action applied to the parts affected will be detrimental rather than beneficial to them.

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**Fred B. Clarke, Long Beach**—One feature of this disease not sufficiently well appreciated is the fact that it is a general systemic disease. The involvement of the lymph nodes, spleen and gall bladder, the short perivascular infiltration in the viscera and other findings point to its general character. It is only in the exceptional case that the virus gains access to the cerebral spinal system, giving rise to those symptoms upon which we usually base a diagnosis.

The symptoms due to the general systemic involvement, such as anorexia, lassitude and headache, culminating usually in vomiting, are the same that may occur with any generalized infection, and unless an epidemic is present they are not given very serious consideration. Frequently a more careful investigation will reveal muscular tenderness of the extremities and neck, with disturbance of the reflexes, indicating involvement of the cerebrospinal system; aids in arriving at a diagnosis in the preparalytic stage, which are of the greatest importance.

One early symptom which is of undoubted value, the irritability shown by the child when examined, is out of all proportion to what one would expect, considering the degree of lassitude ordinarily present. This irritability of the child,

combined with the tenderness of extremities upon movement, with stiffness of the neck, justify a lumbar puncture, which is of great help, but will not always differentiate from lethargic encephalitis. However, the colloidal benzoin test helps very decidedly in differentiation.

A diagnosis in the preparalytic stage is of great value because of the very excellent results from the use of convalescent serum which is given both intraspinally and intravenously. The number of cases so far treated is not sufficient to enable a definite estimation of the value of the serum. The results in the New Zealand epidemic and in the Detroit epidemic have shown it to be of value. Rosenow's serum has also shown, as reported by several observers, very excellent results. In the Detroit epidemic convalescent serum and Rosenow's serum were both used with good results. It should be borne in mind that the convalescent serum or Rosenow's serum, used after paralysis occurs, do have value in some cases, even late in the disease.

After the onset of paralysis, which usually occurs between the second and fourth day, if it occurs at all, the most important consideration is to protect the damaged muscle group by proper splinting. Often the paralysis is made much worse by improper splinting. To encourage the child frequently to demonstrate to relatives and friends just how fast improvement is taking place is absolutely contraindicated.

Demands frequently are made for the early use of massage and electricity by relatives and friends of the patient, and this is at times very hard to combat. Unless used by an expert they are productive of a great deal of harm. I do not believe that the general practitioner or general surgeon should attempt the after care of these cases. Patients should be placed under the care of the best orthopedic surgeon available if they are to have the best treatment for functional recovery.

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**A. G. Bower, Glendale**—Since Underwood gave the first description of poliomyelitis in 1787, we have traveled a long way in our understanding, diagnosis, and treatment of the disease, but unfortunately there yet remain wide gaps in our knowledge of this justly feared disease. Some authors of wide clinical experience believe that with our present knowledge we remain unable to diagnose as high as 70 per cent of these cases, inasmuch as we only recognize the disease as a distinct entity in those cases which give signs of involvement of the central nervous system, and these will probably rarely exceed 40 per cent. Under such conditions we are all probably calling

the majority of the cases we see by some other name, such as la grippe, tonsillitis, "teething," etc. Until such time as more accurate methods of diagnosis can be devised we shall probably not advance very far in our prevention of epidemics of the disease, for these undiagnosed cases undoubtedly present a tremendous factor in spreading the infection, especially in time of epidemic.

It would not seem wise to enter into the controversy concerning the etiological factor of the disease. Rosenow claims to have isolated a specific streptococcus as the cause; Noguchi and Flexner a "globoid" body, which exists in a filtrable virus form, and which looks like a streptococcus in that form capable of microscopic visualization. It may yet be possible that both views are correct.<sup>1</sup> Rosenow claims to have devised a skin test with the toxin of his streptococcus which is strongly positive in infected persons during the acute stage and negative in convalescents.<sup>2</sup> He further states that he has devised a highly diagnostic precipitin test made with material obtained from the nasal cavities of positive carriers and immune horse serum.

<sup>3</sup> It is of interest that in 1926 a milk-borne epidemic was described that apparently was caused by contamination of the milk through contact with a milker who later contracted the disease. This method of spread is probably highly unusual, but it adds another link to our knowledge of the mode of transmission.

Intravenous and intramuscular injections of convalescent serum (or whole blood in some instances) is coming in for much favorable comment. In our few trials it has proven disappointing. Intraspinal serum injection we have also found disappointing and it is receiving very little favorable comment among clinical authors. Levick<sup>4</sup> reports some rather unusual results in old apparently hopelessly paralytic cases by the intelligent use of a special physiotherapeutic technique that he has devised which includes quartz light, red light, galvanic stimulation, muscle re-education, etc. We concur strongly in what our colleagues have stated regarding early immobilization of paralyzed muscles in the acute cases.

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**Harold K. Faber, San Francisco**—I should like to re-emphasize two points which are of particular importance now that we stand in the presence of an epidemic: the probable mode of spread of the disease, and convalescent serum.

The practitioner should keep in mind that in the vast majority of cases the disease is spread by contact either with a healthy carrier or with a patient in the early stages of the paralytic form or with the so-called abortive form. The symptoms in either case, while unrecognizable as poliomyelitis, are sufficiently suggestive to be viewed with suspicion and to be used as a basis for preventive measures. The symptoms to be watched for are those of a nasopharyngitis or bronchitis with fever, headache and other aches and pains,

particularly of the back, the whole picture simulating influenza in many respects; or of a gastroenteritis with vomiting and diarrhea. The public should be advised to avoid close proximity with people having symptoms of a cold and should keep out of crowds and assemblies as far as possible. For various reasons it is unwise to close the schools, but children with the symptoms above should not be allowed to go to school, and nurses and teachers should be particularly vigilant in their daily inspections. It is probable that infection is less often acquired by the inhalation of droplets than by direct transference of the virus from the hands to nose and mouth. Education of the public to avoid touching the nose, mouth or face; to wash the hands frequently, especially before meals, and to change handkerchiefs oftener would be of the greatest possible service.

Convalescent serum is the only proved specific means of treatment. That it can neutralize the virus of poliomyelitis is known, and the clinical proof of its therapeutic value rests on controlled observations. Proof of the value of Rosenow's serum does not appear to be equally convincing. Convalescent serum offers a fair chance of preventing or lessening permanent paralysis if it is given at the very onset of the symptoms indicating involvement of the central nervous system, and may be of some value within the next forty-eight hours. Shaw and Fleischer have shown that whole blood from a convalescent, given intramuscularly, has at least equal value. *Every physician who has a patient convalescent from poliomyelitis should make an earnest effort to obtain serum from that patient and should place it at the service of the medical profession at large.*

Various hospitals, the medical schools, and the State Board of Health are prepared to cooperate with him in obtaining, preparing and storing the serum. Unfortunately great difficulty has been experienced in obtaining it, and stocks of the serum are now very low. Physicians should regard their assistance in this matter not only as a matter of public duty, but as of vital importance to themselves in the proper handling of the cases which they are likely to be called upon to treat at any time. Because of the advantages of pooled serum, which has been properly tested bacteriologically and serologically (Wassermann test), it is preferable to have it collected at a few adequately equipped centers. Blood may be withdrawn as soon as three weeks after the subsidence of fever. The highest concentration of antibodies is during the first few months after the attack, but there is reason to suppose that they may be present in lower concentrations for some years.

**Immunization of Medical Attendants**—While every precaution is exercised to minimize the danger of exposure, still the occurrence of three cases of diphtheria among the nurses suggests very strongly a remedy that should be inaugurated at once. Every pupil nurse should be given the diphtheria toxin-antitoxin inoculations during her period of training so as to immunize her against the disease. Incidentally, it may not be amiss to direct attention to the need of vaccinating every nurse or attendant in hospitals against smallpox.—New York Department of Health Weekly Bulletin.

1. Rosenow, E. C.: Jour. Inf. Diseases, 38, 529, 1926.
2. Rosenow, E. C.: Jour. Inf. Diseases, 38, 532, 1926.
3. Knapp, A. C.; Godfrey, E. S.; Aycock, W. L.: J. A. M. A., 87:235, August 28, 1926.
4. Levick, Murray: Lancet, 2:323, August 15, 1925.

## California and Western Medicine

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evident, it must be acknowledged to be a somewhat surprising circumstance, that the number of American and foreign periodicals in medicine and its closely allied sciences, which must be utilized in compiling the "Quarterly Cumulative Index Medicus," should exceed the number of eighteen hundred; and that the total number of subject titles which must be yearly catalogued and cross-indexed should exceed the appalling total of fifty thousand topics! With such a mass of yearly scientific material, it is no wonder that the conjoint efforts of the Surgeon-General's Library, the Carnegie Institute of Washington, and the American Medical Association should be necessary to produce that work, which enables American and other physicians to have access to an authoritative yearly index to current medical literature. It is indeed a fortunate arrangement that permits these three great agencies to produce this publication which is of such vital importance, to all research and other investigators in medicine who desire to consult collateral articles at their source, in their special fields of study and interest.

\* \* \*

CALIFORNIA AND WESTERN MEDICINE is one of these eighteen hundred periodicals just referred to. What reasons can it give for its existence?

With all due regard to the high standing of California physicians and their ability to do their proportionate part in maintaining and promoting the progress of scientific medicine, it would take a brave heart to insist that our state journal, from purely the scientific standpoint, was indispensable to the world.

As a matter of fact it does not and never has made any such pretension; and its owners, the members of the California Medical Association, at no time have ever had such a major aspiration for it. While it is true that CALIFORNIA AND WESTERN MEDICINE wholeheartedly subscribes to, and enthusiastically supports all medical literature produced by California physicians which measures up to the highest standards of literary and scientific excellence, and hopes that an increasing number of articles of such type will appear between its covers, it recognizes that the production and publication of such super-excellent papers by California physicians is something over and above and beyond itself. While CALIFORNIA AND WESTERN MEDICINE gladly lends its encouragement to all who produce or seek to produce such theses, at the same time it must carry on with such studies and papers as are actually brought forth by the members of the C. M. A. Of their work, it feels that the members of the California Medical Association need not make undue apology. Whatever that work may be, and to what greater or lesser height of standards the papers through which the studies are presented, could or should measure, it may be assumed that, inasmuch as these contributions are largely the discourses which are presented at the annual and other meetings of the California Medical Association and the component county societies, that

## EDITORIALS

### THE REASON WHY OF A STATE MEDICAL JOURNAL

From the days about the year 1450, when Gutenberg and Mentz revealed to the western world the allurements to be found in reproducing words and thoughts through the use of letter blocks, the printing press has been of inestimable value in the dissemination of knowledge. Through printed word man acquires most of the facts which give him a basis for reflection and which serve him as a guide to conduct and action.

The printed textbooks used in the medical curriculum are a foundation basis for the physician's mental armamentarium. After his graduation from his medical school the physician continues to purchase medical books, and he nearly always also acquires the subscription habit to one or more medical journals.

It is upon these medical periodicals that the physician in part depends to keep himself informed of the advances of his science, as well as to keep him in touch and in fraternal and proper contact with fellows of his own guild. Medical journals exist then, because they are an especially effective means of bringing desired knowledge to busy practitioners, both on what individual members and the guild as a whole are doing.

\* \* \*

While the need of the printed page in the dissemination of medical knowledge is therefore

they are a fair reflection or average of the scientific tone and literary standards of the California profession at the time of such presentation and publication.

And if these papers be not, then the reflection and criticism should not be upon either those colleagues who contribute to the sessions, or on the state journal which prints them; but on such colleagues who, possessing knowledge and literary ability able to produce better discourses and papers, nevertheless fall short of their obligations to organized medicine, and particularly to the California Medical Association, by not taking a more active part in the proceedings of its own and the county society meetings.

\* \* \*

Therefore, one of the major functions of a state medical journal is to present the output of the members of the state association and its component county societies; to the end that the formal opinions and carefully considered viewpoints of the essayists who contribute messages to these organizations, in California, for instance, may be made more readily available to the more than five thousand subscribers to this journal.

But in equal and perhaps in even more important manner, it is the function of CALIFORNIA AND WESTERN MEDICINE to act as a medium of interchange of opinion on matters of economic, fraternal and other professional interest. For in our devotion to the standards of either abstract or applied medical science, let none of us waft ourselves away in an aura of self-satisfaction or complacency, that through such devotion, our economic, legal and other interests may be left to care for themselves. Such is not the case, for we live in a day when the strife is to the quick, and they who count on the goodness, generosity, and appreciation or altruistic thought from either lay fellows, or at times, even of physician fellows, may have opportunity to repent of such philosophical abstraction, when rights and privileges which should be an inherent part of so noble a profession as that of the healing art, are insidiously or forcibly taken from it.

These thoughts are penned because there be among us, some, who at times seem not to sense quite fully the need of an organized profession, and who seem to forget that through just such an organized profession they themselves flourish more than would otherwise be the case. There be few busy physicians who do not profit from their affiliations with fellows, who send patients for consultation, and who in return ask nothing but that good service be rendered the patients so sent. Nevertheless there is an obligation involved in this; and that has to do with the fact that the prominent and able consultant shall reciprocate for this confidence in him, by placing himself in full communion with his fellows at their annual sessions, and by giving of his very best to these colleagues, upon whose good-will and cooperation

his own success is often so very largely founded. The greater the knowledge and ability of any one of us in our guild, just that much greater should be our obligation to share of the same with our fellows.

\* \* \*

To make the pages of CALIFORNIA AND WESTERN MEDICINE replete with messages coming from thinking and observing members of the profession, from one end of this great state to the other; to have the topics discussed be of wide range and of such character as to be provocative of keen thought by all readers, and to old and young members of the profession alike, to be an inspiration, to keep themselves alert and in step with the progress of scientific medicine; to present to the members of the Association the problems confronting the physicians of today, and the manner in which the officers of the state and county societies are striving to solve these problems for the advancement of the profession and the protection of the interests of its members; to serve as a medium of fraternal interchange of opinion among the members on all matters directly or indirectly concerned with the work of physicians—these are some of the objects which the Council of the California Medical Association and its delegated editorial representatives keep constantly in mind.

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These objects as here briefly presented would seem to be an ample sufficiency and very adequate and proper reasons, why CALIFORNIA AND WESTERN MEDICINE has a right to exist and have a place in the sun. And through the whole-hearted and loyal support of a host of able colleagues and coworkers this journal as time goes on should give increasing reasons for its continuance.

Its founder, the late Philip Mills Jones, when our journal was in its baby clothes, made a name for it through its espousal of the principle that all high-grade medical journals should expunge from the advertising pages, all undesirable announcements; the editor and Council hesitating not to give valiant and effective battle to the journal of the national association at that time, until that important issue was properly and decently settled.

His successors, and especially its recent editor, the late William Everett Musgrave, carried it forward in increasing worth and capacity. With its honorable past, and the support of so outstanding a profession as exists in California, CALIFORNIA AND WESTERN MEDICINE cannot do otherwise than to continue to progress and be an increasing influence for effective service not only to its members, but to the citizens of our own great state and the adjacent commonwealths. The cooperation and support of every member of the California, Utah, and Nevada Medical Associations are desired in order to accomplish these good ends.

### THE COLLECTION OF FEES

The great majority of physicians must depend upon the fees which they collect to house and clothe themselves and their families, to educate their children, and to put aside a something for the probable stormy day of tomorrow or of advancing years.

In the days of not so very long ago, when the physician was less of a specialist and much more often an intimate part of many family groups, to the members of which he had rendered services to bring out varying expressions of gratitude and material appreciation; and when the exigencies of modern-day living were not quite of so cold-blooded a money character as today, it may not have mattered greatly whether a goodly number of patients paid, what were little more than small installments on the worth of professional services rendered.

But today, with the increasing complexity and specialization of trades, businesses and professions, and the newer methods of doing business in both urban and rural communities, the doctor who does not collect a goodly proportion of the fees he has earned, is more than apt to be faced with a column in the red; and no man can do justice to himself in his profession and give expression to his best work and capacity under such a handicap.

Physicians vary greatly in their financial attitude and relationship to patients. There be some doctors, who smilingly and graciously and seemingly with a minimum of effort, can secure a large proportion of the fees due them from patients. There be others who put their business relationships on the same basis and procedures which are in vogue in the lay business world, and who seem to be successful with that plan. But a goodly number, if not a majority, still send out statements and make their collections on much the same plan as their predecessors, hoping that a sufficient number of patients will send in their checks or make payments to keep the ledger showing no red when the balances for the month or year are computed.

The geographical, social and economic environments of patient groups, the character of general or special medical practice engaged in by the physician, the financial customs of the colleagues of the community, all these are factors to be reckoned with in this matter of collecting fees for services rendered; and last but not least is the individual physician himself, his own likes and dislikes in these matters, and his financial aspirations or needs.

These comments are made because in the Medical Economics column of this issue is printed a series of stickers or follow-up notices which could be enclosed with statements to patients whose remittances for services rendered, are past due. These notices were devised years ago for the members of the Los Angeles County Medical Association. There was a twofold purpose in their creation: one, to have each notice be a spur to the collection of the money due and yet be

not of an antagonistic nature; and two, to lead up to the point where the account would go to a collector so that such a patient would not be the recipient of future services. These notices are almost self-explanatory and can be modified to suit local conditions or personal preferences. The fact that many members of the profession, especially younger members, are oftentimes in a quandary on how to proceed in such matters made it seem permissible to print and call attention to this system which has borne the test of trial; and which an office secretary can carry out in quite impersonal routine with a minimum of fret and worry to the physician. A system which creates a minimum of antagonism among delinquent patients, but which is as effective in its results as the almost brow-beating methods of some mercenary collection agencies which proceed in their collections with an abruptness that makes enemies for a physician where friendship and gratitude should exist; and a system which nevertheless eliminates the undesirable patients, may be thought worthy of trial by some of the colleagues who have been in doubt on what procedures to adopt in this important business of fee collection. That is why these slips are printed in this issue. Each physician who reads the method of procedure can determine whether or not there is any part of it which he himself might wish to adopt.

### THE 1926 INTERNATIONAL PUBLIC HEALTH WORK OF THE ROCKEFELLER FOUNDATION

In the News column of the Miscellany Department of this number of *CALIFORNIA AND WESTERN MEDICINE* is printed the foreword paragraphs of President Vincent's report of the work carried on by the Rockefeller Foundation in the year 1926. The stupendous sum of practically ten millions of dollars was paid out during the year in the promotion of international public health projects. The paragraphs referred to should be read by every physician who would wish himself to have somewhat of an orientation of how so large a sum of money from private sources could be advantageously expended in public health work.

It is a magnificent record which is recorded by President Vincent and one in which every American may take pride, for it is American money and leadership that are responsible for this monumental achievement. Diversified as the twenty major fields of endeavor which were enumerated are, and creditable and deserving as those very projects may be, it is even more wonderful as one reads and reflects on the splendid methods of approach and cooperation which the Foundation has laid down as its policy in dealing with universities and with government agencies.

The distribution of the great wealth amassed by captains of industry throughout the world, and especially in our own country, is still a favorite topic of discussion, especially by the non-possessor onlookers. Whatever criticism may be at-

tached to certain forms of philanthropic and altruistic expression which are sponsored by some of these wealthy industry captains, only an academic type of criticism could come into play, when the work of the Rockefeller Foundation is judged. The bigness of the vision of its administrators, the vast and important scope of their endeavors, their lack of provincialism as shown in the generosity of their approach to the problems of peoples of different lands, these are an unusual combination, and reflect great credit not only on the Rockefellers for the munificent giving of their great wealth, but also on their wisdom and far-sightedness in their selection of the prominent Americans who make up the governing board of the Foundation.

If more of the great wealth which it has been the good fortune of so many fortunate fellow-citizens to accumulate could be expended through institutions like the Rockefeller Foundation, which is doing work so intimately associated with, and so far-reaching in its beneficent effects upon the human race, then much of the sting and drawback of superwealth by the few, at the expense of the many, would be taken away. As physicians we should be proud that this Rockefeller Foundation is playing so leading a part in the advancement of public health and medical work throughout the world. To Californians it should also be a matter of state pride that Dr. George E. Vincent, president of the Rockefeller Foundation, is a Californian by adoption, making his home in Santa Barbara.

#### WHO SHALL RATE CLINICAL LABORATORIES

Dr. Wilfred H. Kellogg raises this important question in an article in this issue.

It is well known, of course, that the Council on Medical Education and Hospitals of the A. M. A., as well as the American College of Surgeons, American Hospital Association, and other medical organizations, have been working toward a solution of this problem for several years. The central idea of all of these groups consists in setting standards and requiring laboratories to meet these standards or go unapproved.

The standards established by the A. M. A. were published in the *Journal A. M. A.*, April 3, 1926, and a list of approved laboratories is published annually.

The movement is in all essentials similar to that employed for so many years in hospital work, and promises by purely moral influence to assure doctors and the general public reliable laboratory services. All medical organizations interpret clinical and diagnostic laboratory work as the practice of medicine.

Physicians are likely to oppose placing the control of this branch of medicine in the hands of any government bureau, however competent it may be; particularly those hundreds of excellent clinical laboratories operated by physicians.

The work of competent public health bodies requires laboratory work and no one will object to their operating their own laboratories to serve their

own purposes, but it is extremely doubtful if the cause of health will be constructively served by extending this work to a regulation of other laboratories in doctors' offices, hospitals and elsewhere.

The point at issue is whether laboratories, like hospitals, shall be constructively promoted by the effective moral forces now active, or whether another law shall be passed placing control of this work in a government bureau.

**The American Association for the Study of the Feeble-Minded**—The fifty-first annual session of the American Association for the study of the Feeble-Minded was held at Cincinnati on June 4, 5, and 6, thus following the meetings of the American Psychiatric Association and allied societies.

Dr. B. W. Baker, in his presidential address, pointed out that, as a result of the public being fully informed as to disorders like cancer and tuberculosis, financial and other support for study and research was forthcoming, and stressed the necessity of disseminating knowledge as to the problems of the feeble-minded so that similar interest and support might be aroused in this field. In referring to the attempts being made to tackle the problems of the feeble-minded, Doctor Baker made reference to the value of sterilization and appealed for careful study of the cases so treated. It seemed that a tendency to adopt this procedure by the various states was progressive, and in view of a recent decision of the court's upholding the measure as constitutional, it was probable that more widespread application would take place in the near future.

In the section of Social Service as applied to mental deficiency, an interesting paper entitled "A Study in Mental Deficiency in a Canadian Province" was read on behalf of Dr. C. M. Hincks of Toronto.

This paper aroused an interesting discussion which was carried on in conjunction with one read by Dr. Butler of Eldridge, California, on behalf of Dr. Paul Popenoe, entitled "Success on Parole after Sterilization." There would seem to be little doubt in most circles in California as to the successful results achieved by sterilization of the feeble-minded. It was stated that 75 per cent of the sterilizations (under legal process) performed in the United States have been done in California, and that over 5000 cases have been sterilized there (this figure includes both insane and feeble-minded); not a single appeal has yet been made. Doctor Butler discussed the results in cases placed on parole, and especially those cases who, but for sterilization, would have been maintained under continuous institutional care. As a result of this latter group being paroled a saving of \$220,000 had been effected in one institution over a period of two years.—*Canadian M. A. J.*

**One important phase of the treatment of early syphilis** is the prenatal care of infected mothers and the treatment of new-born infants. This was work in which the late Professor Fordyce was deeply interested, and he developed at the Vanderbilt Clinic, in connection with the Sloane Hospital for Women, one of the first clinics where this work was consistently carried out and where its effectiveness was demonstrated. It is now the practice in many obstetrical hospitals to perform routine Wassermann tests on all expectant mothers. Many are found to be infected, though they have never shown symptoms of the disease. We now feel rather confident that if these mothers can begin treatment in not later than the fourth month of pregnancy they will give birth to normal children. These children, without receiving any treatment themselves and without especial care, grow up with no evidence of syphilitic infection. We always test such children, of course, and try to follow them up, but it is the rare exception to find them infected.—Joseph Gardner Hopkins, *Proceedings of the Twelfth Annual Conference of the National Committee for the Prevention of Blindness.*

## MEDICINE TODAY

Current comment on medical progress, discussion of selected topics from recent books or periodic literature, by contributing editors.

### Dermatology and Syphilology

**Dont's for Dermatologic Therapeutics—**  
1. Do not overestimate the importance of the systemic treatment at the expense of the local, or vice versa. The best results in the majority of cases are obtained by the combination of both.

2. Do not use stock prescriptions routinely; modify and grade the strength of drugs according to the requirements of an individual case.

3. Do not use powders or ointments in weeping eruptions. Oily and liquid applications are much more comfortable and effective.

4. Do not give dietetic advice to the patient in generalities; be specific and explicit.

5. Do not give bromides or opiates for the relief of itching; at the best they give only a partial and transient relief and aggravate the itching afterward.

6. Never give irritating drugs in a high concentration at the start, begin with a weak solution and increase the strength gradually.

7. Do not use vaseline as a base for ointments on the glabrous skin; it is too soft and will melt in warm weather. On the other hand, do not use lanoline or Lassar paste on the hairy parts; it is messy and hard to clean.

8. Do not use pine tar in infantile eczemas. Crude coal tar is much less irritating.

9. Do not forget that skin is a highly individualistic organ and that the tolerance of individual skins to various drugs varies tremendously.

10. Do not use tincture of iodine in ringworm of the scalp or impetigo. On repeated application it will only blister the skin and open new channels for pyogenic infection.

11. Do not give iodides in early syphilis nor salvarsan in late; reverse the procedure and add mercury or bismuth.

12. Do not forget the basic dermatologic therapeutic principle. In acute conditions use soothing and cooling applications, in chronic use stimulating and absorbent.

13. Do not use resorcin on a blonde scalp; it may turn it green.

14. Do not use 10 per cent mercury ammoniate ointment in impetigo; it may irritate some skins and aggravate the condition. Two to five per cent ointment is much safer and just as effective.

15. Do not use surgical gauze as a dressing in weeping skin eruptions; it sticks to the raw surface, makes it bleed, and irritates on separation. Old washed linen and muslin are infinitely better.

16. Do not use Whitfield ointment routinely in every case of ringworm; it may be too strong for acute cases and too weak for some chronic cases.

17. Do not regard arsenic as a panacea in skin diseases. It is contraindicated in acute inflammatory dermatoses; its use should be limited to a definite

group of chronic dermatoses, such as psoriasis, lichen planus, dermatitis herpetiformis, etc.

18. Do not allow the patient to refill, at his discretion, the arsenic prescription. Remember that the prolonged use of arsenic may produce pigmentation, keratoses, exfoliating dermatitis, etc.

19. Do not use phenol as an antipruritic in acute inflammatory dermatoses. Anaesthesin 2 to 4 per cent is at least as effective, and is much safer.

20. Do not use sulphurs and tar indiscriminately one for another. Sulphur excels in affections involving the sebaceous follicles, and is a drug of choice in acne and seborrhea. Tar is particularly effective in promoting the absorption of the skin infiltrates in chronic eczemas, lichen planus, etc.

21. Do not use strong acids such as nitric acids for the removal of warts on the face, neck, and other locations with tender skin. Many ugly scars have been produced by it. Fulguration or x-ray are much superior.

22. Do not use carbonic dioxide snow in lupus erythematosus; it may produce deeper scars than the disease itself might produce through a spontaneous involution.

23. Do not use repeatedly mild cauterizing agents, such as silver nitrate or copper sulphate, on moles and growths of an undetermined nature. You may start or stimulate latent malignancy.

24. Do not give strong erythema doses, much less blistering doses of ultra-violet light in highly inflammatory dermatoses, such as acute eczemas, staphylogenes sycosis, or even acute psoriasis. Moderate doses will give you better results.

25. Do not give large doses of x-ray in inflammatory superficial dermatoses, such as chronic eczemas, psoriasis, etc. Smaller doses of one-eighth to one-fourth of a skin unit are sufficient in the overwhelming majority of cases.

MOSES SCHOLTZ,  
Los Angeles.

### Pediatrics

**Diphtheria Immunization—**Mr. Doctor: Are your own children immunized against diphtheria? It seems almost incredible that in this period of modern-day medicine, when prophylaxis is the keynote, there should exist a large number of medical men who have failed to take advantage of one of the greatest advances in preventive medicine.

It is indeed difficult to believe that at a time when pediatricians, health officers, social service workers, life insurance companies, and even the biological laboratories are shouting the merits of toxin-antitoxin from the house-tops; when medical journals are replete with undisputed proof of its value in preventing diphtheria there can exist one single

doctor who is not cognizant of its value. And yet within the past few months I have been called to treat diphtheria in the families of two doctors, and have learned from a score or more of others that they have neglected to use or had failed to appreciate the value of this magnificent agent which is now at our command for the prevention of diphtheria.

Now, Mr. Doctor, if you are one of the derelicts, get busy at once and immunize your children and the children of your patients.

OSCAR REISS,  
Los Angeles.

### Neurosurgery

**Palliative Neurosurgical Methods**—As custodians of the public health physicians have a threefold responsibility, namely, the prevention and the cure of disease and, thirdly, the relief of suffering. Our attention and interests as regards prophylactic and curative measures should not overshadow the problem of those suffering from incurable maladies. Only too frequently when the decision has been made that specific therapeutic measures are not indicated we lose interest in the case although our sympathy for the patient may be great. Nothing is more trying than the care of a patient with an incurable disease who suffers great pain. Frequently these patients live a long time, and any measure that will make their last days more comfortable is a welcome addition to our therapeutic armamentarium.

Pain is the chief cause of discomfort. Morphine and the other narcotics are resorted to in order that the patient may be fairly comfortable. Surely no one can criticize the use of narcotics in such cases, but unfortunately the patient is frequently in a worse physical and mental state because of their use. The narcotic habit should be avoided if possible in any patient who is not entirely incapacitated because of disease, or one whose expectancy of life is longer than six months.

Primary malignant tumors or their metastases are a common cause of severe pain. The following surgical measures have proved efficacious for the relief of pain.

Tumors of the face, sinuses, or neck frequently involve branches of the cervical or cranial nerves. If the pain is confined to the face and head, resection of the sensory root of the gasserian ganglion will give relief. The operation is the one done so successfully for the relief of *tic douloureux*. Temple Fay has reported several cases of carcinoma of the face and neck in which relief of pain was obtained by a cervical rhizotomy. In some few cases the combined operation of avulsion of the gasserian sensory root and cervical rhizotomy are necessary if the lesion and pain are widespread.

Malignant growths of the pelvic contents and metastatic growths to the vertebral column frequently cause severe and intractable pain. If the patient has a paralysis of both legs, injection of alcohol into or section of the cord above the lesion may be considered. In those cases where the motor disability is absent or slight, section of the antero-

lateral columns of the cord is recommended. This operation, so-called cordotomy, has been used sufficiently to establish its definite worth. It has also been used in cases of severe pain of the abdomen or lower extremities due to lues and other nonmalignant disease when the pain cannot be controlled by specific therapy. Max Peet in a recent article reviews the history of this operative procedure, and published nineteen cases of his own. The series includes three cases of primary malignancy of the spine, three of *tuberculosis dorsalis*, two of myelitis, two of carcinoma of the rectum, one of carcinoma of the cecum, one of carcinoma of the uterus, one carcinoma of the breast, one sarcoma of the thigh, and one shell wound of the sciatic nerve in the pelvis. Most of the malignant cases had metastases of the spine or involvement of the pelvic glands with pressure on the lumbosacral plexus. A satisfactory relief of pain was obtained in fourteen cases and partial relief in five.

These operations are not shocking ones, but should be reserved for patients in fairly good condition whose expectancy of life is at least several months.

HOWARD W. FLEMING,  
San Francisco.

### Urology

**Bladder Neck Contracture**—Bladder neck contracture or median bar formation at the bladder neck was first elaborated upon by Young in 1911.<sup>1</sup> This is a condition in which there is obstruction to urinary outflow at the bladder neck, due to a fibrous condition of the prostate causing either a ring contracture of the entire bladder neck, or encroachment upon the bladder neck at some point, usually posteriorly. When this occurs posteriorly it is spoken of as a median bar, and is due to a fibrous enlargement of the middle lobe of the prostate causing obstruction by its projection into the internal urethral orifice.

In his excellent work on urology, published late in 1926, Hugh Young<sup>1</sup> discussed this condition in detail. The symptoms of which the patients complain, named in order of their frequency of occurrence are: (1) frequency of urination; (2) pain located in (a) urethra, (b) bladder neck, (c) end of penis, (d) perineum, or (e) suprapubic; (3) difficulty of urination; (4) small stream; (5) weak force; (6) urgency; (7) occasional complete retention; (8) incontinence; (9) sudden stoppage; (10) complete retention; and (11) urination incomplete.

The residual urine found is as a rule less than that found in cases of prostatic hypertrophy, the average being from 25 to 50 cc. There may be no residual urine, or there may be as high as 1000 cc.

By rectal palpation the prostate varies from a small, atrophic condition to an enlargement which could be mistaken for an adenomatous hypertrophy. The diagnosis is made mainly by cystoscopic examination. The cystoscope, after being introduced, is held firmly, as in a vise, at the bladder neck. The thickened bladder neck can be palpated between the

<sup>1</sup> Young's Practice in Urology, Vol. 2, Ed. 1926, pp. 481-512.

cystoscope and the examining finger in the rectum.<sup>2</sup> Any encroachment of the fibrous prostate into the bladder neck can be seen through the cystoscope. Obstructions of this type are treated by operation with the use of the Young punch. The bladder neck is punched out either directly through the urethra by means of illumination through the instrument, or else with the aid of a suprapubic opening, which enables the operator to perform the operation with the guidance of the palpating finger in the bladder.

Bladder neck contracture sometimes follows prostatectomy, necessitating a later operation to relieve the condition. This complication can, to a large degree, be eliminated by the use of the punch at the time of the enucleation of the prostate, the bladder neck being punched out posteriorly.<sup>3</sup>

In giving the results of the punch operation, Young reports a cure in 67 per cent of his series, and a marked improvement in an additional 11 per cent.

ROGER W. BARNES,  
Los Angeles.

### Ophthalmology

**Treatment of Strabismus**—The treatment of strabismus, or crossed eyes,<sup>1</sup> should begin as soon as the condition is discovered, not only for the purpose of correcting the cosmetic defect, but to save the vision of the crossing eye. If one eye in a child is allowed to remain crossed until that child is over 6 years of age, the chances are that the eye will never have normal vision even though treatment is instituted after that age.

An "amblyopia ex anopsia," or loss of vision through disuse, develops and remains through life. The eye of an infant must be used to develop its maximum visual acuity, and when an eye crosses, it is not used, because if it were the child would see double.

Another reason for correcting the defect early is to try to re-establish binocular vision. Fusion of the two pictures from the eyes in the brain is a faculty which is developed in most of us during infancy, but this faculty cannot be developed when the eyes are crossed.

When the visual acuity of the crossing eye has been improved by refraction and the wearing of the proper glass over that eye, and by making the child exercise the bad eye by covering the good one, the time is ripe for the development of binocular vision. Stereoscopic exercises are used with the amblyoscope and the simple stereoscope. If the eyes do not straighten with the development of stereoscopic vision, we must resort to surgical procedures to keep permanently the ground that we have now gained.

The preferable surgical procedure is to advance or shorten the weaker muscle. If this will not correct the whole defect, the stronger muscle may be receded or partially cut. A free tenotomy is not

desirable. Operation is practically always successful if the parents will permit the surgeon to do a second, or even third, operative correction if the first one did not remove the entire defect. Frequently not enough is done at the first operation, as the surgeon fears an overcorrection of the squint, but the adjustment can almost always be made perfect by a subsequent operation.

The writer believes with those who hold that if these patients could be treated while under 3 years of age, we would have a very high percentage of functional as well as cosmetic restoration of these patients who have a strabismus.

WILLIAM A. BOYCE,  
Los Angeles.

### Obstetrics and Gynecology

**Diet in Pregnancy**—Although pregnancy is a normal bodily function and should not be regarded as a malady, it is certainly attended with many risks, and there is such a small border line between its physiology and pathology that the utmost care is necessary. Every pregnant patient should come under prenatal advice.

Diet in pregnancy is a matter of some importance. J. A. Polak<sup>1</sup> considers the following types of toxemia: hyperemesis, the preeclampsia toxemia, and eclampsia. Pernicious vomiting is evidently a serious complication, having a mortality rate of 20 per cent. Diet principles may impress the patient, and are advisable. Etiology or prognosis of the toxemia of the later months of pregnancy is not helped much by blood chemistry or metabolic rate findings. Herrick at Sloane Hospital has every toxemia of the later months of pregnancy studied by internists and biochemists.

In hyperemesis the dehydration and toxicity can be combated with copious ingestion of water in the form of alkaline waters. The carbohydrate deficiency can be cared for through increased intake of carbohydrates, fruit juices, cereals, custards, and some candy. Intravenous glucose alone, or in combination with insulin is occasionally a help. Some of these patients have defective emunctories or unbalance of the endocrine system.

DeLee in Chicago Lying-In Hospital at one time prescribed, without effect, salt-free diet for preeclampsia. Absolute milk diet did not stop the disease. Now he prescribes a salt poor, and a diet low in proteins and fat. Free use of water.

Sansum and Nuzum at Santa Barbara have done some excellent work in nutrition and food requirements. They find that vegetables, some nuts and fruits with the exception of prunes, plums and cranberries, give an alkaline ash causing increased alkalinity of the urine.

In our preclinic work at the College of Medical Evangelists we advise free use of fruits and fresh vegetables, avoiding strongly flavored vegetables, such as onions. We find the h-ion in urine goes up, and blood pressure comes down. The addition

1. American Medical Association Journal, June 24, 1926.

2. Parker, Wilbur B.: Bladder Neck Obstructions, Their Surgical Relief in Reference to the Young Punch, *Surgery, Gyn. and Ob.*, 1923, pp. 36-43.

3. Weyman, M. F.: *California and Western Medicine* March, 1926.

of cereals or meats may cause a change in the reaction of urine, and an increase in blood pressure.

Recently we had a good illustration of the prune as an acid ash. A mother brought a baby in with urine showing a strong ammonia odor and acid reaction. An erythema around genitalia and inside of thighs. Stopping the prunes, giving milk and vegetable broths, cleared up the difficulty.

Preeclamptic patients coming under treatment respond to basic diet and use of magnesium sulphate 20 cc. of a 10 per cent solution, given intravenously.

Patients long in labor and almost in starvation acidosis are given orange juices. In 1921 Blatherwick and Long<sup>2</sup> found it impossible to give sufficient orange juice to overstep the power of the body to utilize these organic acids.

Expectant mothers need also to be well fed, for the sake of the unborn. They should have foods rich in inorganic constituents. The new-born infant weighing six pounds contains more than an ounce of lime, all of which must be stored up during gestation. Dr. William P. Lucas discussing an article by Dr. H. W. Chappell,<sup>3</sup> "Early Rachitic Changes in the Femur and Tibia," says:

"While diet and hygiene are important factors in the production and cure of rickets, I am of the opinion that the diet of the mother during pregnancy and lactation is equally important in determining the susceptibility of an individual. Statistics show that the average American dietary is low in minerals, especially calcium. This is particularly true of the poorer classes in large cities who cannot afford sufficient quantities of the mineral-rich foods, such as fresh fruit, green vegetables, and milk. In the light of our experimental observations which agree well with clinical experience, we dare to believe that when the dietaries of expectant mothers are planned to include liberal quantities of inorganic constituents in their proper proportions, a long step will have been taken toward the eradication of this disease which has baffled the medical profession for so many generations. If this theory is proven true, rickets of the future will be the responsibility of the obstetrician rather than the pediatrician."

P. MARTIN KELLER,  
Los Angeles.

### Dermatology and Syphilology

**Bismuth Salt Therapy in Syphilis**—Experimental work on bismuth salts in treatment of syphilis is now sufficiently complete to serve as a trustworthy guide in treatment. Aside from the value of bismuth as a therapeutic agent, the question of dosage, frequency of administration, length of courses and frequency of courses is important.

Conclusions from early studies on absorption<sup>1,2</sup>

of bismuth injected intramuscularly, based on the persistence of the x-ray shadow at the site of the injection, were contradictory. The shadow sometimes disappeared when the bismuth could be demonstrated microscopically and chemically at the site of injection, and it sometimes persisted (due to calcium soap<sup>3</sup> from the oil suspension medium) after no bismuth could be demonstrated. It is interesting that some of the soluble salts are absorbed less readily than insoluble ones, due to focal necrosis<sup>4</sup> at the site of injection, from the union of soluble bismuth with tissue albumin. Chemical analysis of the tissue<sup>5</sup> carrying the site of injection demonstrated that 67 per cent of bismuth salicylate was absorbed in eight days and 95 per cent in twenty-one days. Bismuth salicylate is apparently the most rapidly absorbed of the insoluble salts.

The distribution of bismuth throughout the body has been determined by chemical analysis of the various tissues at different periods after injection of various bismuth salts.<sup>4</sup> Bismuth penetrates every tissue and organ of the body, including brain and bone. Fifty per cent can be recovered from the various tissues of the body 189 days after a single injection. About 40 per cent can be recovered from the urine and feces during this time, which contains a variable amount during the entire period of study (189 days). About 95 per cent of the total amount injected can be accounted for at the end of 189 days.

Previous studies on the therapeutic efficiency of various bismuth salts in experimental syphilis indicate the salicylate to be as good as any of the insoluble salts.<sup>5</sup> The dosage should be in exact relation to the body weight; 0.12 gram or 2 grains per 130 pounds being apparently the best for weekly injections.

The effect of bismuth alone and in combination with the arsenobenzenes, on the Wassermann reaction has been studied by Wright<sup>5</sup> in a series of 128 cases. Eighty per cent were still Wassermann positive after one course of neoarsphenamine and mercury salicylate, and of this number 52 per cent became negative after fifteen weekly intramuscular injections of bismuth of 0.1 gram each. Of the 20 per cent that were negative after the neoarsphenamine course none again reverted to positive after having been given bismuth. "Given in early syphilis its spirochaeticidal activity is but little less than that of the arsenobenzenes, and yet it does not provoke the severe reactions that are not uncommon following the initial dose of an arsenobenzene."

MERRILL W. HOLLINGSWORTH,  
Santa Ana.

2. A. M. A. Bio. Chem., 1922, lili, 103.

3. California and Western Medicine, December, 1925.

1. Cole, H. N., Farmer, H. L., and Miskdjion, H.: Intramuscular absorption of Some Insoluble Bismuth Compounds as Revealed by the Roentgen Rays, Arch. Dermat. and Syph., 1926, xlii, 219.

2. Beinhauer, L. G., and Jacob, E. M.: The Relative Absorption and Therapeutic Efficiency of Some Bismuth Preparations, Am. Jour. Syph., 1925, ix, 213.

3. Gruzheit, O. M.: Bismuth Salicylate in Experimental Rabbit Syphilis, Arch. Dermat. and Syph., 1926, xlii, 195.

4. Gruzheit, O. M.: Bismuth Absorption, Distribution, and Elimination, Am. Jour. Syph., 1927, xi, 103.

5. Wright, Carrol S.: The Effect of Bismuth Alone and in Combination with the Arsenobenzenes on the Wassermann Reaction, Am. Jour. Med. Science, 1927, clxiii, 2, 222.

### Orthopedics

**The Carrel-Dakin Treatment of Infected Wounds**—Accidents cause many severe injuries for which Carrel-Dakin treatment is indicated; and industrial surgery offers a wide field for its application. Unfortunately, the desire to save initial medical expense too often deprives the patient of this protection, and results in unnecessary loss of life or limb.

The Carrel-Dakin technique, when correctly applied to the type of lesion for which it is adapted, is without a rival in controlling and sterilizing certain very dangerous contaminated and infected wounds. It was perfected by the Rockefeller Institute. Every known germicide practicable for wound cleansing was the subject of investigation. Every single detail of the meticulous and time-consuming technique as finally standardized has survived the determination of competent investigators to simplify the procedure to the last degree compatible with efficiency.

That surgeon is in error who believes that he can deviate from the standard technique and obtain equally sure and satisfactory results.

The method essentially consists in the intermittent irrigation of the wound (at two hour intervals day and night) through specially perforated rubber tubes, with a solution containing .4 to .5 per cent sodium hypochlorite, negative to the powdered drug but giving a flash test to alcoholic solution of phenolphthalein. The effectiveness of Dakin's solution depends at least as much upon the proper degree of alkalinity as upon the available chlorine. Wounds must be dressed daily with extreme care, surrounding skin cleansed with neutral soap solution and protected by a coat of sterile vaseline. A sufficient number of properly perforated tubes must be distributed so as to insure thorough irrigation of all wound surfaces and the whole enclosed in large absorbent pads.

Chutro became such a master of this technique that he was credited with having dressed a hundred cases daily in addition to carrying a heavy operating service. Having seen Chutro demonstrate his technique, the writer thinks the report was not exaggerated.

Carrel-Dakin treatment is very valuable in extensive grossly contaminated wounds, especially where fractures are involved. The most spectacular results are in cases complicated by gangrene. When there is much devitalized tissue, this treatment minimizes the necessity for destructive mechanical debridement. Necrotic tissue is liquefied without sacrifice of living tissue and adherent foreign bodies are rapidly flushed out.

When operation for removal of infected foreign bodies or sequestra exposes fresh tissues to contamination, immediate postoperative irrigations destroy the surface contamination and speedily digest away all material favorable to further bacterial growth.

It is a grave mistake to delay the beginning of

postoperative irrigations until the initial state of simple contamination has passed into one of active infection. Through such delay, the most brilliant results of the treatment are lost.

Invaluable for the primary cleansing of contaminated joints, the treatment must be terminated as soon as tissue exudates and devitalized tissue are removed, otherwise rapid digestion of cartilage ensues.

A technique so exacting is sure to be the target for much adverse criticism and unfavorable report. Failures of the indiscriminating who have not used the proper technique or who have not selected suitable cases, are augmented by the exploitation of more or less worthless proprietaries. Only those proprietaries which are simply concentrated alkaline solutions of hypochlorite, of known and reliable titre, so that dilution to a true Dakin's solution is practicable, may be depended upon to give satisfactory results.

E. W. CLEARY,  
San Francisco.

**Fractures of the Hip**—In the minds of many of the profession, fractures of the hip are all one and the same. Prognosis is based upon the age of the patient and not upon the character of the break. If the patient is elderly, permanent almost total disability is to be expected. If the patient is of middle age or younger, a prognosis of partial permanent disability is at once made. A clearer conception of the mechanical problem in fractures involving the hip will make for a more intelligent treatment and a more hopeful outlook for the patient's future. For practical purposes, there are two general types of hip fractures: one, fractures of the neck of the femur; two, fractures involving the trochanter (intertrochanteric). Both types may be impacted, but impaction of the neck is comparatively rare. It is in these rarer cases that many grievous errors arise either from careless diagnosis or from poor films. Each year a number of cases are seen of this type where the diagnosis has been "No fracture," the treatment outlined on this basis, and the end result a wholly unnecessary disaster. The import of this from a medico-legal standpoint, is self evident.

The prognosis in fractures of the neck of the femur is dependent on several factors. Extreme old age withstands any fracture poorly. Mental deterioration with attendant incontinence makes the outlook very bad, but in the long run, the prognosis in my opinion is largely based on the treatment. Reposition of the fragments and effective maintenance of the position, are the biggest factors in securing union. Union occurs in fractures of the neck with almost the same certainty as elsewhere in the femur if properly reduced and immobilized. In all intertrochanteric fractures, the prognosis for union, though coupled with shortening and deformity, is uniformly good in spite of indifferent treatment. The reason seems evident when one con-

siders the wide area of fracture surface exposed in the fragments in such a fracture. There is no circulatory problem in the nourishment of the fragments here, such as one finds in neck fractures. End to end apposition is almost assured, no matter how true the approximation of the fragments.

From their experience, orthopedic surgeons who have cared for large numbers of these patients, are rather universal in recommending the Whitman abduction spica plaster cast method for handling fractures of the neck. The essentials of this method are traction, wide abduction, internal rotation and slight hyperextension. The traction takes care of the shortening; abduction, such that the great trochanter almost rides against the rim of the acetabulum, stretches the capsule and prevents later over riding; internal rotation throws the neck against its fellow fragment and cares for antero-posterior displacement; hyperextension binds them together firmly by stretching the Y ligament across the anterior fracture area. Such a reduction and cast allows frequent change of position so necessary in the aged. It holds the fragments immobile and therefore eliminates pain. Union is assured because of almost perfect reduction. The intertrochanter fracture is also handled best, in my opinion, by a plaster cast. Moderate abduction with the extremity in the neutral position as regards rotation, is the proper position. The cast is best made to extend down the opposite thigh to the knee. This tends to prevent, by a firm grip upon the pelvis, the over riding of the fragments and consequent shortening, which will almost invariably occur in the single spica cast in this type of fracture.

Treatment of the impacted fracture is often ill advised. Rarely does an impaction remain impacted. Nature picks up the debris and shortly the impaction is lost. Loose fragments which need immobilization are the results. It is well to treat all impacted fractures of the hip in the same manner that you would treat the ordinary intertrochanteric without impaction. Ill advised violation of the tenets of immobilization, even in the recumbent position, often leads to deformity or non-union.

#### SUMMARY

1. X-ray all hip injuries and accept and study only clear cut views.
2. Know the type of fracture with which you are dealing and treat it accordingly.
3. Properly reduced and immobilized in a Whitman spica cast, fractures of the neck give a hopeful prognosis.
4. The prognosis for intertrochanteric fractures, if the normal relation of the fragments is at all maintained, is uniformly good.
5. Impacted fractures are a source of danger and should be treated with the same thoughtful care as other types. Immobilization and protection are essential.

H. W. SPIERS,  
Los Angeles.

#### Otorhinolaryngology

**Postoperative Treatment of Radical Mastoid Operation**—In a recent correspondence of the *British Medical Journal* of February 26, 1927, A. J. Wright of Bristol recommends the use of paraffin as a substitute for the common gauze packing in the radical mastoid cavity. He uses the French proprietary preparation called "Ambrine," which corresponds to the B. P. C. paraffin preparation No. 7, a mixture of hard and soft paraffin with resorcin, eucalyptol and olive oil, which has for its melting point 48 degrees C.

All that is necessary is to melt the preparation in a test tube in a water bath and pour it into the cavity, whether a skin graft has been made or not. It can be removed without difficulty by picking it out with forceps. He claims the following advantages: I. The cavity heals with astonishing rapidity. II. It can be introduced painlessly and with a certainty that the whole cavity will be filled. III. The discharge diminishes very rapidly.

Adams of Glasgow, writing in the B. M. J. the following week, confirms what Wright says about the advantages of paraffin in the after treatment of radical mastoid cavities. He says they are "a painless introduction and removal of the paraffin, rapid diminution of discharge and quick epithelialization of the surface. The resulting cavity is excellent."

The paraffin can be scraped into a teaspoon, warmed over a spirit lamp and, after being tested as to temperature, poured into the ear. There is no need of any special dressing after this procedure.

In a radical mastoid operation, one's aim is to produce ultimately a dry or healed ear. A great aid in the process of healing is the correct treatment of the eustachian tube at the time of operation. Curetting does not always cause a firm closure; one sometimes is sadly disappointed after careful curetting to know that postnasal infection still finds access to the ear through the eustachian tube. One can be more sure of a permanent closure by the momentary insertion of a needle shaped electric cautery point down the tube as far as the isthmus. This sterilizes and seals the tube and assures to the operator a dry ear. With the paraffin dressing and the sealing of the eustachian tube one can expect an excellent result in radical mastoid cavities.

C. H. HAYTON,  
Los Angeles.

1. Walker, J. E.: *J. Infect. Dis.*, 1926, 38, p. 127.

**Suicide Record**—Henpecked husbands may be surprised to know it, but suicide is more frequent among the unmarried than the married, according to a study of 307 cases made by Dr. S. Serin, a physician of Paris, and reported by the French correspondent of the American Medical Association, says the *Science News Letter*. Suicide is resorted to as the way out of life's problems more frequently by men than by women, and more often by the elderly rather than the merely adult, Doctor Serin finds. He divides the causes of suicide into five classes: insanity, alcoholism, severe grief, incurable disease, and poverty.—*M. J. and Record*.

# STATE MEDICAL ASSOCIATIONS

## CALIFORNIA MEDICAL ASSOCIATION

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### OFFICIAL NOTICES

**Extension Lecture Service**—The yearly revision of the Extension Lecture program of the California Medical Association is in progress.

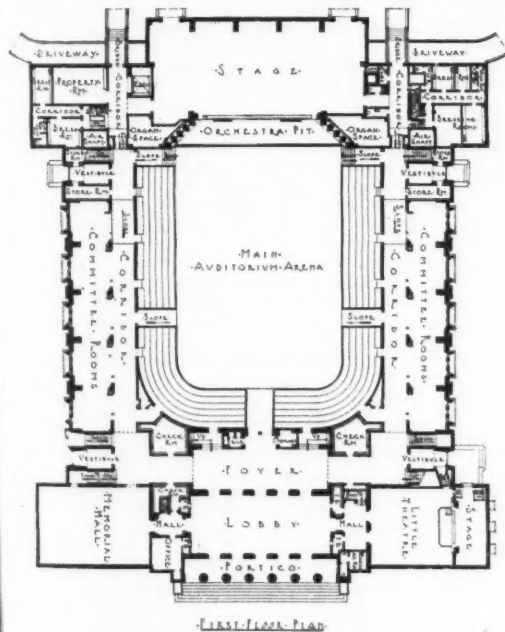
Those members not on the present list who desire to be included in this service should at this time furnish to the State Association office their names and a list of not more than four subjects, which they are prepared to present before county societies on call.

When lantern slides are used to illustrate lectures a notation to that effect is helpful. Lecturers are permitted the use of the Association's lanterns in this service, and may secure them from the office, 1016 Balboa Building, between the hours of 9 a. m. and 5 p. m. daily, except on Saturday, when the office closes at noon.

It is earnestly hoped that interest in the Extension program will be stimulated by the submission of an enlarged and varied program.

**Meeting of the Council of the California Medical Association**—The next meeting of the Council of the California Medical Association will be held in the Hotel Biltmore, Los Angeles, October 8, 1927.

**Annual Session—April 30 to May 3**—The new auditorium at the state capital will house the 1928 meeting of the California Medical Association. The accompanying floor plan shows the main auditorium for all general sessions, the large Memorial Hall and Sutter



Theater rooms for the General Medicine and General Surgery Sections, and the ten smaller connecting rooms facing Fifteenth and Sixteenth streets where other sections meetings will be held.

Hotel Senator is the official hotel headquarters.

Members who desire to present papers before the fifty-seventh annual session should make application to the secretary of the appropriate section *now*. On February 15 the completed program is in the state office. Applications for space on the program straggle in all through February and March and even into April after the program, which regularly appears in the April issue, is in the hands of the printer. For space on any annual program, application should be made during the preceding autumn.

The names and address of section officers are monthly listed in the *Directory of Medical Organizations* indexed, which is found on the title page of CALIFORNIA AND WESTERN MEDICINE under "Miscellany."

If a member desires the paper which he presents at the annual session also entered in the Clinical Prize Contest or in the Research Prize Contest, he may enter it according to the following directions:

**How Clinical and Research Papers May Be Read at Annual Meeting—How Papers Presented Before the Annual Session May Be Entered for Clinical and Research Prize**—All papers entered in the Clinical or Research Prize Contest are eligible to be read at the annual meeting of the California Medical Association, providing the paper is received by the state secretary before December 20 of the year preceding the annual meeting and approved by the Program Committee. Conversely, papers written primarily for section programs may be entered in the Prize Contest in the following way:

Send two copies of your paper to the state secretary, 1016 Balboa Building, San Francisco, before December 20, with an unsigned note that you wish your essay submitted for a prize and also read at the annual session. Sign your paper with your nom de plume. Also send your name in a sealed envelope with the nom de plume appearing on the outside. Use no stationery that in any way reveals your identity.

The state secretary shall deposit all nom de plume envelopes in a safe until the Prize Committee has made its decision.

The state secretary on receiving a prize paper which is submitted for presentation at the annual session shall submit said paper to the members of the Program Committee. The Program Committee will approve or disapprove it for place on the annual program. The Program Committee will inform the state secretary of its decision, and the secretary will then forward the titles of approved papers to the appropriate section secretary with a simple statement that the paper is acceptable for a place on the program. The Prize Committee will not be informed of this decision and action. A paper may be acceptable for a prize and not for a program, and vice versa.

The Prize Committee shall receive all papers which have been sent to the state secretary, whether approved for publication or not, on or before January 1. The sealed written report of the Prize Committee shall be submitted to the state office before March 1.

The Executive Committee, at the first meeting after March 1 of a given year, shall open the nom de plume envelopes and furnish the secretary the proper names of the authors for the published annual program.

The Council shall consider the report of the Prize

Committee at its first meeting of the annual session, and shall announce the result at the first general meeting of the Association. Both the Clinical and Research Prizes by the California Medical Association are for \$150.

### COMPONENT COUNTY SOCIETIES

#### SAN JOAQUIN COUNTY

The board of directors of the San Joaquin County Medical Society met at the call of the president, Wednesday evening at 7:30 p. m., August 10, 1927, at the headquarters of the local Health Center, 129 South American Street, Dr. J. W. Barnes presiding. Those present were Drs. J. W. Barnes, Fred J. Conzelmann, Barton J. Powell, G. H. Sanderson, and J. J. Sippy. Absent: Drs. H. S. Chapman, L. R. Johnson, and R. T. McGurk.

The Chair stated that the object of the call was to consider the request of some members of the society for a discussion of the action of the Ethics Committee as recorded in its letter of June 23 to all members of the society relative to its findings on physicians' services to the Pacific Health and Hospital Services Corporation.

After the question was discussed for some time the Chair entertained a motion. Dr. J. J. Sippy moved, seconded by the secretary, that the board of directors of the San Joaquin County Medical Society endorse the action of the Ethics Committee as stated in its letter of June 23, 1927, and recommended to the society that any member of the society who continues to render services to the Pacific Health and Hospital Services Corporation or similar organizations, should be suspended from the society.

The motion carried unanimously. There being no further business the meeting adjourned, sine die.

FRED J. CONZELMANN, *Secretary*.

#### SANTA BARBARA COUNTY

The regular meeting of the Santa Barbara County Medical Society was held in the staff room of the Cottage Hospital, H. E. Henderson, president, in the chair. Twenty-one members and four interns were present. Secretary W. H. Eaton, absent at Del Monte training camp.

Minutes read and approved.

Application of F. G. Crandall, M. D., County Health Officer, for transfer to this society from Jackson County, Missouri, read. Transfer card accompanied same. On motion duly seconded it was voted to accept.

Dr. Milton Geyman read a paper and presented slides and x-rays, with case reports on osteochondritis dessicans. One case was of the hip-joint, another of the patella. He was unable to find any cases in the literature of these two locations. Discussion by Drs. Rodney Atsatt and Harry Schurmeier.

Dr. Rexwald Brown presented the gross specimens of pathological kidneys; removed from patients now in the hospital recovering: one tuberculous kidney, one old pyelonephrosis with complete destruction, and one with multiple stone. All three were diagnosed by cystoscopy, having been treated for many years inadequately. He also presented a large uterine fibroid removed successfully which weighed sixteen pounds. Discussion by Doctors Geyman, Pierce, Profant, Manning, and Sansum.

P. C. MEANS, *Secretary pro tem.*

#### STANISLAUS COUNTY

The June meeting of the Stanislaus County Medical Society was held at the Hotel Hughson, Friday night, June 10. This was the last meeting before the summer vacation. The banquet was held at 6:30 p. m. There were twenty-four members present and five visiting physicians.

At the business meeting a motion was presented which would prohibit any hospital in the county from receiving patients of a physician not a member of the medical society. It was the opinion of the majority that this motion was very necessary, but because of

the fact that that too hasty an action may be a bad thing the matter was laid on the table.

A letter was read from Dr. F. R. DeLappe. He suggested a concerted effort to increase the membership of the society. There are four or five available men in the county.

Following the business meeting a most excellent program was given by four physicians of the Sutter Hospital group of Sacramento: Dr. F. F. Gundrum, Cardiac Arrhythmia; Dr. June Harris, Mesenteric Lymphadenitis; Dr. Nathan Hale, Prostatitis; Dr. Thomas Haigg, Tuberculosis of the Hip. All of the papers were very complete, and many new suggestions for treatment were introduced. The paper by Doctor Harris was particularly good. Many of the cases thought previously to be appendicitis were pointed out as a gland entity.

The next meeting of the society will be held next September.

J. W. MORGAN, *Secretary*.

### CHANGES IN MEMBERSHIP

**New Members**—Alameda County—Bertha E. Jenkins; W. Whitfield Crane, Oakland.

Los Angeles County—Ethel May Andre, John F. Brownsberger, Owen H. Homme, Ernest C. Kellogg, Abraham Metzner, Lucien L. Miner, John E. Potts, Los Angeles; Philipp E. Schmidt, Glendale; Julius C. Sosnowski, Long Beach.

Tulare County—Newton Miller, Porterville.

**Transferred Members**—Clark L. Abbott, from Contra Costa County to Alameda County.

Paul S. Barrett, from Fresno County to San Mateo County.

Carl B. Bowen, from San Francisco County to Alameda County.

Charles C. Fullmer, from Fresno County to San Francisco County.

Allen K. McGrath, from Sonoma County to Napa County.

### DEATHS

**Baker, Wood C.** Died at San Mateo, August 17, 1927, age 47 years. Graduate of Cooper Medical College, 1903. Doctor Baker was a member of the San Mateo County Medical Society, the California Medical Association, and Fellow of the American Medical Association.

**Barton, Orren L.** Died at Loomis, July 14, 1927, age 68 years. Graduate of Medical College of Ohio, 1879. Licensed in California, 1889. Doctor Barton was a member of Placer County Medical Society, the California Medical Association, and the American Medical Association.

**Coulter, Frank Edwin.** Died at Santa Ana, July 18, 1927, age 66 years. Graduate of Rush Medical College, 1882. Licensed in California, 1916. Doctor Coulter was a member of the Orange County Medical Association, the California Medical Association, and the American Medical Association.

**Outlaw, John S.** Died at Los Angeles, July 15, 1927, age 64 years. Graduate of Howard Medical College, Washington, D. C., 1891. Licensed in California, 1900. Doctor Outlaw was a member of the Los Angeles County Medical Association, the California Medical Association, and the American Medical Association.

**Smith, J. Hubert.** Died at Clovis, August 14, 1927, age 32 years. Graduate of Vanderbilt University, Nashville, Tennessee, 1921. Licensed in California, 1922. Doctor Smith was a member of the San Bernardino County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

### OBITUARY

#### Frank Edwin Coulter

Frank Edwin Coulter was born in St. Joseph, Missouri, in 1860. He received his preliminary education at the Burlington, Iowa, High School. He

graduated in medicine from Rush Medical College in 1882.

He located in Waterloo, Nebraska, where he practiced for some years before moving to Omaha, Nebraska. In 1901 he worked for a year at the National Hospital for the Paralyzed and Epileptic in London, England, under Sir William Gowers. He again returned to Omaha, and for the rest of his life limited his practice to nervous and mental diseases. He was professor of nervous anatomy for seven years and clinical professor of neurology and psychiatry for twenty years at the Creighton University Medical School in Omaha. He removed to Santa Ana in 1922, where he continued his work until his death.

He was a member of the Orange County Medical Association, California Medical Association, American College of Physicians, Los Angeles County Society of Nervous and Mental Diseases, and the Association for the Study of Internal Secretions.

During his residence in Santa Ana he was active in the affairs of the medical society and of the community. He helped to organize and was an active member of the staff of the Orange County General Hospital. He was a member of the Masonic and Elks lodges, the Kiwanis Club, the Santa Ana Country Club, and the Balboa Palisades Club.

He is survived by his aged mother, by his widow and three children.

He will indeed be missed by all of us both for his counsel in his special field of work and for his genial personality and ever active interest in all our activities.

## UTAH STATE MEDICAL ASSOCIATION

W. R. CALDERWOOD, Salt Lake.....President  
E. H. SMITH, Ogden.....President-Elect  
FRANK B. STEELE, Salt Lake.....Secretary  
J. U. GIESY, 701 Medical Arts Building, Salt Lake.....Associate Editor for Utah

### OFFICIAL NOTICES

The attention of the members of the Utah Medical Association is called to the circular notices of August 3 from the State Commissioner, J. T. Beatty.

The first of these dealt with the subject of gratuitous clinical service to indigent residents of the state by the Bacteriological Laboratory of Utah.

The second had to do with the bulletin of the Bacteriological Laboratory calling attention to the tests which the laboratory is prepared to make to aid in the diagnosis of whooping cough.

In the second of the bulletins sent out, attention was called to the fact that the bacteriological laboratory of the Utah State Board of Health is prepared to send a copy of its manual to all physicians of Utah who send in their requests for the same.

**Dr. Howard Kelly Visits Utah**—One of the interesting medical events of July was the visit of Dr. Howard Kelly of Baltimore, Maryland, to his friend Dr. George Middleton of Salt Lake. Although primarily traveling more or less incognito, because of his desire for a vacation. Doctor Kelly met a number of the medical fraternity during his sojourn in the state.

A dinner was given for him at Pine Crest Inn on the evening of July 10. He also made trips to the scenic region of southern Utah, visiting Zion's Canyon and Bryce.

According to the doctor he came West mainly to rest, view the scenery, and add specimens to his collection of reptiles and fungi. Already he possesses the largest private collection of serpents of any man in the world. During his visit to Zion he enjoyed the sport of catching several specimens, which he took with him when he left, on one occasion dashing precipitately down a fifty-foot embankment in order to capture a dusty, brown blow snake, and hold it triumphantly aloft.

**Eleven Physicians Granted Licenses**—Eleven physicians have been registered in Utah and licenses

granted them to practice in that state, according to announcement Tuesday by H. Welling, director of the state department of registration.

Of the eleven, five were candidates who passed the recent examinations and six were registered by reciprocity. Those passing the tests were L. M. H. Tillotson, Albert B. Leigh, E. S. McQuarrie, Joseph Oscar Jones and Clark L. Rich. Those registered by reciprocity were Warren H. Twining, Guy Alton Koon, Erastus Clark McIntyre, James Edward Scobee, Quince Burt Coray, and Mary Montgomery.

Registration was granted also to nine persons as obstetricians: Ida May Cooper, Lucie Rosine Gaigne, Annie C. Lingard, Charlotte Paskett, Anna May Chip, Mildred F. Strauser, Katherine Nolte, J. P. Henderson, and Gladys Beath.

**Annual Meeting of Nevada State Medical Association** will be held at Bowers' Mansion, near Reno, on September 23-24, 1927. A cordial invitation to attend is extended by the state secretary, Dr. Horace J. Brown, to all members of the California Medical Association.

**Sterilization of Feeble-Minded**—(Supreme Court of the United States; Carrie Buck, by R. G. Shelton, her guardian and next friend, v. G. H. Bell, superintendent of the state colony for epileptics and feeble-minded. In error to the Supreme Court of Appeals of the state of Virginia. No. 292, October term, 1926. Decided May 2, 1927.)

The decision of the Supreme Court upholds the judgment of the Supreme Court of Appeals of Virginia, affirming a judgment of the Circuit Court of Amherst County, by which the defendant was ordered to perform the operation of salpingectomy upon Carrie Buck, for the purpose of making her sterile. Carrie Buck, who was committed to the state colony for the feeble-minded in due form, is the daughter of a feeble-minded mother in the same institution and the mother of an illegitimate feeble-minded child. The case is appealed on the contention that the statute authorizing the judgment is void under the fourteenth amendment as denying to the plaintiff due process of law and the equal protection of the laws. In the opinion of the court, delivered by Mr. Justice Holmes, "There can be no doubt that so far as procedure is concerned the rights of the patient are most carefully considered, and as every step in this case was taken in scrupulous compliance with the statute and after months of observation there is no doubt that in that respect the plaintiff in error has had due process of law. The attack is not upon the procedure but upon the substantive law. It seems to be contended that in no circumstances could such an order be justified. . . . We have seen more than once that the public welfare may call upon the best citizens for their lives. It would be strange if it could not call upon those who already sap the strength of the state for these lesser sacrifices, often not felt to be such by those concerned, in order to prevent our being swamped with incompetence. It is better for all the world, if instead of waiting to execute degenerate offspring for crime, or to let them starve for their imbecility, society can prevent those who are manifestly unfit from continuing their kind. The principle that sustains compulsory vaccination is broad enough to cover cutting the fallopian tubes. (Jacobson v. Massachusetts, 197 U. S. 11.) Three generations of imbeciles are enough."

According to the World Almanac, the number of feeble-minded persons in institutions in the United States is 39.3 per 100,000 of total population, as against 22.5 in 1910. Some daily journals have pointed out that there might be danger from these sterilization laws, but provisions have been made in the Virginia act, which include public hearings, reduction of all evidence to writing, appeal to the circuit court of the county or the supreme court of the state.

# MISCELLANY

## NEWS

### THE ROCKEFELLER FOUNDATION\*

Review of Work in 1926

By GEORGE E. VINCENT  
PRESIDENT

#### THE YEAR IN BRIEF

During 1926 the Rockefeller Foundation, in disbursing \$9,741,474, (1) aided the growth of fourteen medical schools in ten different countries; (2) maintained a modern medical school and teaching hospital in Peking; (3) assisted the development of professional public health training in fifteen institutions in twelve countries and in ten field stations in the United States and Europe; (4) contributed to nurse training schools in the United States, Brazil, France, Poland, Yugoslavia, China, Japan, and Siam; (5) sent, as emergency aid, journals, books, or laboratory supplies to institutions in twenty European countries; (6) helped twenty-one governments to combat hookworm disease; (7) gave funds to organized rural health services in 244 counties in the United States and to thirty-four districts in twelve other countries; (8) shared in the creation or support of various departments in state or national health services in sixteen countries; (9) cooperated with Brazil in the control of yellow fever, or in precautionary measures against the yellow fever mosquito, in ten states; (10) continued yellow fever surveys and studies in Nigeria and on the Gold Coast; (11) aided efforts to show the possibilities of controlling malaria in nine North American states and in Porto Rico, Nicaragua, Salvador, Argentina, Brazil, Italy, Spain, Poland, Palestine, and the Philippine Islands; (12) helped to improve the teaching of physics, chemistry, and biology in eleven institutions in China and in the government university of Siam; (13) supported the Institute of Biological Research of the Johns Hopkins University and contributed toward the publication of *Biological Abstracts*; (14) gave funds for biological or mental research at Yale University, the State University of Iowa, and the Marine Biological Station at Pacific Grove, California; (15) provided, directly or indirectly, fellowships for 889 men and women from forty-eight different countries, and paid the traveling expenses of sixty-nine officials or professors making study visits either individually or in commissions; (16) helped the Health Committee of the League of Nations to conduct international study tours or interchanges for 120 health officers from forty-eight countries; (17) continued to aid the League's information service on communicable diseases; (18) made surveys of health conditions, medical education, nursing, biology, or anthropology in thirty-one countries; (19) lent staff members as consultants and made minor gifts to many governments and institutions; (20) assisted mental hygiene projects both in the United States and in Canada, demonstrations in dispensary development in New York City, and other undertakings in public health, medical education, and allied fields.

#### ESSENTIAL FACTORS IN HEALTH PROGRESS

The triumphs of preventive medicine are widely acclaimed. Health departments report the decline of

\* This interesting foreword to Doctor Vincent's report is self-explanatory. Reference to this report is made in one of the editorials in this issue of California and Western Medicine.

communicable diseases and the fall of the general death rate. In recent years the infant mortality rate has dropped rapidly: in London, for example, it fell from 159 deaths (within the first year) per thousand living births in 1900 to 68 in 1925, and in New York from 192 to 65 during the same period.

Smallpox is almost unknown in parts of Europe and in a few states of the United States; typhoid epidemics are rare in efficiently administered communities; tuberculosis is decreasing among many populations; diphtheria is coming under successful control; the outlook for preventing the spread of scarlet fever is brighter; malaria is being ousted from various strongholds; yellow fever seems to be making a last stand; cholera cannot seriously invade a country which has a modern water supply and proper disposal of wastes; typhus has few terrors for communities addicted to soap and water and clean linen.

But the modern health movement is not content with sanitation and the control of communicable diseases; it goes on to the hygiene of groups and of individuals. It is not satisfied with a negative prevention of disease; it preaches a gospel of positive, active, vigorous physical and mental well-being.

So the hygienes multiply to include mothers, babies, little children, school children, adults, industrial groups, and the victims of tuberculosis and of venereal diseases. A mental hygiene deals with feeble-mindedness, delinquent criminal tendencies, maladjustments, and various forms of psychic disturbances. Food, clothing, posture, sleep, occupation, exercise, recreation, social relations, personal adjustments, are becoming concerns of public health.

Full credit is due to sanitarians and hygienists for the results achieved; but it must be remembered that many factors have combined to reduce the amount of communicable disease, to raise health standards, and to bring down death rates. These gains reflect not only the results of purposeful preventive and positive health measures, but record progress in economic welfare, in housing, diet, clothing, in municipal house-keeping, in the provision of public parks and playgrounds, in the education of parents, and in popular intelligence. Here is a case of complex multiple causation. It is impossible to give to each of the many factors its just due. But it is safe to assume that the conscious efforts of organized public health agencies are playing an influential part and are too important to be relaxed.

Even this rapid glance at modern health organization and activity reveals a multiplicity of things being done by many different kinds of functionaries scattered over wide areas, organized about centers of authority, exercising power, and supported by large funds. Doctors, investigators, health officers, sanitary engineers, statisticians, laboratory workers, technicians, nurses, inspectors, accountants, clerks, combined in working units which include city, town, and country, make up the personnel. Government departments, laws, and public funds provide appointments, authority, salaries, and supplies. In many cases voluntary health agencies maintained by private gifts supplement the resources of governments, help to show the feasibility of new measures, and educate public opinion in support of official policies.

The creation and maintenance in any country of a going concern like this call for definite things. First of all, research must be encouraged and intercourse with world centers of investigation must be kept up in order to have the essential scientific basis

for effective work. In the second place the medical profession must be intelligent and sympathetic. The physicians of a country can make or break a public health program. It is they who diagnose maladies, report cases of communicable disease, educate their patients, make health examinations, give advice about personal hygiene, influence public opinion.

It makes a world of difference whether practitioners are wholly devoted to individual ills and curative medicine or are committed to the modern idea of prevention. The progress of public health is largely due to the leadership of doctors of imagination and public spirit. To its medical schools a country must look for the kind of training and idealism which will produce doctors of the new type. Medical education is a vital factor in the development of public health.

Again, the different kinds of officials and special workers must have technical professional training. Public health is not something to which anyone may turn without appropriate preparation. Furthermore central services of many kinds must be set up: statistical bureaus, laboratories for diagnosis and for the production of vaccines, sera, and antitoxins, departments of communicable diseases, infant welfare, public health nursing, venereal diseases, popular education, and others.

Still further, a system of organization—rural, municipal, state, or provincial, as well as national—must be created and official relations of authority and cooperation clearly laid down. Sanitary laws and codes must give authority. Appropriate salaries, protection against political influence, retiring allowances, social recognition must attract and hold men and women of the highest type of professional efficiency and personal character.

Finally the public must be brought, through the education of children, the wide diffusion of information, and the concrete services of clinics, health centers, and visiting nurses, to appreciate and support the idea of preventing disease and of promoting health. In a democracy at any rate, public opinion cannot be ignored, whatever the temptation of the health officer to envy the hygienic efficiency of military camps or of such an expert's paradise as the Panama Canal Zone.

To sum up: the effectiveness of a national system of public health service depends upon the appropriate and cooperative development of scientific research; medical education; the training of health officers, laboratory workers, engineers, and nurses; the creation of central services; the organization of administrative units; the enactment of appropriate legislation; the provision of adequate funds; and the development of sound public opinion.

#### HOW THE FOUNDATION HELPS

It is within this general field of medical research and teaching, training of health personnel, and organization of health services that the Rockefeller Foundation finds its chief opportunities to lend a hand. It deals almost exclusively with universities or with government agencies, local, state, or national, and with these only upon their invitation. The constant aim is to stimulate progress, to encourage experiment, to demonstrate new methods, to increase efficiency.

It takes no interest in merely quantitative expansion. Nor does it assume more than a part of the cost of a new experiment or demonstration. It wants to be a partner not a patron. When it works with a government health service, the latter agrees to assume the entire responsibility within a limited period if the project proves of value. The Foundation succeeds best when it can withdraw completely from a health project which continues, as it began, under official auspices and is supported wholly by public funds.

As for medical education the Foundation has no ready-made, standardized, inflexible system to impose upon university schools. The more than four hundred medical teaching centers scattered through the countries of the world vary widely in national traditions, in stages of development, in methods of organization and teaching, in areas of influence. The Founda-

tion is primarily interested in helping a selected number of medical schools to demonstrate plans of improvement in medical education which might otherwise have to be postponed or even abandoned.

The programs which make the strongest appeal include the bringing together on one site of medical laboratories and teaching hospitals, the freeing of laboratory investigators and teachers from all outside duties, and the creation of a few clinical professorships whose holders are able to devote themselves to the care of patients, to research, and to teaching on a university basis.

The Foundation is especially interested in the development of modern departments of hygiene and in the permeation of the entire undergraduate course with the idea of disease prevention. But in no case are university trustees asked or permitted to bind themselves or their successors to continue any particular methods of organization and teaching. At most they agree to give a plan a fair trial. They are free at any time to change it.

In addition to fundamental medical education, the Foundation is interested in the professional training of health officers, sanitarians, statisticians, laboratory workers, and other personnel. Aid is given for the creating or developing of institutes of hygiene either as independent centers of research and teaching or as organic parts of medical schools. As a rule such cooperation is confined to countries in which the Foundation is assisting in public health activities. So too, assistance is given to schools of nursing because of the vital importance of modern nursing both to the teaching hospitals of medical schools and to the proper development of various public health services.

The public health program of the Foundation includes demonstrations in combating specific diseases, i. e., hookworm disease, malaria, and yellow fever; aid in improving central health department services which have to do with laboratories, vital statistics, sanitary engineering, and epidemic control; cooperation in the organization of rural health services with full-time personnel; the making of surveys; provision of field training and experience for health officers; and other forms of aid and service.

While the Foundation seeks to relate its various activities to one another and to the correlated medical and public health systems of each country with which it works, it also welcomes chances to promote international cooperation through contributions to the League of Nations for its health work, through the granting of fellowships to medical and public health students to work at home or in countries other than their own, and through international visits of health officials, medical scientists, and administrators. The Foundation lends its influence, not to standardize national programs of medical education and public health, but to combat a narrow provincialism and to promote the freest possible exchange of ideas throughout the world.

**American College of Surgeons**—The American College of Surgeons will hold the seventeenth clinical congress in Detroit, October 3-7. Headquarters will be at the Book-Cadillac and Statler hotels, and the meetings will be held at the Statler Hotel, and Orchestra Hall.

**Special Course for General Practitioners in Physical Therapy**—The Stanford Medical School announces to the physicians in California that Frank B. Granger, M. D., of Boston, Massachusetts, will conduct a one-week course in physical therapy from September 26 to 30, 1927.

This course will afford the physicians an opportunity to obtain, under ethical conditions and without any commercial connections, the latest and most authoritative developments of this branch of the therapeutic art from a recognized expert in this medical field.

Doctor Granger was director of physical therapy in the United States army during the World War.

At the present time he is physician-in-chief of the Department of Physical Therapeutics at the Boston City Hospital. Besides being instructor in physical therapeutics at the Harvard Medical School, and lecturer on the same subject at the Tufts Medical School, he is consultant to a number of hospitals, including the Boston Floating Hospital. He is a member of the Medical Council of the United States Veterans' Bureau and the Council of Physical Therapy of the American Medical Association.

The course will consist of lectures, demonstrations, the illustrative use of apparatus, and such clinics as can be fitted into the program. Special attention will be given to electrotherapy and the theoretical and practical application of such modalities as the galvanic, sinusoidal, faradic, static current, medical and surgical diathermy, and the use of the ultra-violet ray.

It is proposed to devote each morning from 10 on, and each afternoon from 2 o'clock on, to the work of this course. The lectures and demonstrations will be conducted in Lane Hall, Stanford Medical School Building.

The course will be strictly limited to properly qualified licensed physicians and surgeons. A nominal fee of \$10 will be charged for this course. On payment of the fee physicians will receive a card of admission to the lecture room in which the course is conducted.

Registration for the full course will be received at the dean's office, Stanford Medical School, on or before noon, September 20. Requests for information or remittances to cover advance registration should be addressed to The Dean, Stanford Medical School, 2398 Sacramento Street, San Francisco. A check for advance registration should be accompanied by the physician's name and home address, the medical school from which he graduated, and the year of graduation.

**University of California Appoints New Man as Medical Dean**—At the recommendation of President W. W. Campbell the Board of Regents of the University of California recently endorsed the appointment of Dr. Robert Langley Porter, former San Francisco city physician, as dean of the University Medical School, at Fourth and Parnassus, to relieve Dr. Lionel S. Schmitt, acting dean, who has been serving at that post for five or six years.

The regents directed that Doctor Porter, who is now in Rome, where he has been studying certain medical problems for the past two years, be notified of his appointment to the post, taking effect September 1, 1927.—*U. C. Clip Sheet.*

Dr. Stuart C. Way, recently returned from two years of study in Europe, has been made instructor in dermatology and syphilis at the Stanford University Medical School.

A partnership has been formed with Dr. Harry E. Alderson under the name of Doctors Alderson and Way, with offices in the Medico-Dental Building at 490 Post Street, San Francisco.

**Golf Tournament**—The annual tournament between the Northern and Southern Medical Golf Associations will take place again this year at Del Monte on October 29 and 30. Arrangements have been made for the southern players to leave on a special train Friday evening of October 28, to arrive at Del Monte early the following morning. Special nominal railroad and hotel rates have been arranged.

On Saturday, October 29, play will take place on the Del Monte course, and on the following day it will be completed on the Pebble Beach course. All play will be in team matches on handicap. Last year the bronze plaque was won by the North on points. This year the South is determined to even up the score and win it.

Dr. Walter V. Brem will again captain for the South. His team will be greatly strengthened by the

presence of Dr. Paul Hunter, California Amateur Champion, who will take part. Trophies will be awarded to both individuals and teams on handicap.

**Interstate Postgraduate Medical Assembly**—Pre-assembly clinics at the hospitals of Greater Kansas City upon Friday and Saturday mornings, October 14 and 15. Scientific programs and ambulatory clinics each afternoon at Muehlebach Hotel. Dr. J. Shelton Horsley of Richmond, Virginia, is a special guest upon Saturday afternoon, October 15; subject: "Peptic Ulcer," illustrated.

The intensive program of the Interstate Assembly will begin Monday, October 17, at 7 a. m., and continue morning, afternoon and evening, until the banquet in honor of the distinguished guests upon Friday evening, October 21.

The guests from Europe are as follows:

Sir John Bland Sutton, England, surgery; Dr. R. P. Ranken Lyle, England, obstetrics-gynecology; Dr. Ersilio Ferroni, Italy, obstetrics-gynecology; Prof. Adolphe Maffei, Belgium, pediatrics; Mr. Garnett Wright, F. R. C. S., England, pathology; Dr. I. Snapper, Holland, pathology; Dr. Gustav Alexander, Austria, otology; Dr. Otto J. Kaufman, England, neurology; Dr. Giuseppe Franchini, Italy; Dr. Sigmond Frankel, Austria; obstetrics-gynecology; Mr. John S. McArdle, F. R. C. S., Ireland; Prof. Carl Bohr, Germany, surgery; Dr. Luigi Margiagalli, Italy, obstetrics-gynecology; Dr. J. Marinho, Brazil; Dr. Fritz Steinmann, Switzerland; Dr. Paul Unna, Germany.

The distinguished guests from America include the following surgeons:

Dr. Charles H. Mayo, Rochester, Minn.; Dr. George W. Crile, Cleveland; Dr. Alfred W. Adson, Rochester; Dr. Arthur Dean Bevan, Chicago; Dr. Joseph Colt Bloodgood, Baltimore; Dr. Hugh Cabot, Ann Arbor, Mich.; Dr. Walter E. Dandy, Baltimore; Dr. John B. Deaver, Philadelphia; Dr. John F. Erdmann, New York; Dr. E. Starr Judd, Rochester; Dr. Francis E. Lahey, Boston; Dr. Dean Lewis, Baltimore; Dr. Charles H. Frazier, Philadelphia; Dr. William D. Haggard, Nashville; Dr. W. E. Lower, Cleveland; Dr. Robert C. Coffey, Portland, Ore.; Dr. Jabez N. Jackson, Kansas City, Mo.; Dr. George J. Heuer, Cincinnati; Dr. LeRoy Long, Oklahoma City; Dr. John J. Moorhead, New York; Dr. Allen Graham, Cleveland.

The following distinguished internists are to hold clinics or give addresses:

Dr. Lewellys F. Barker, Baltimore; Dr. Charles A. Elliott, Chicago; Dr. Elliott P. Joslin, Boston; Dr. Frederick J. Kaltefleiter, Philadelphia; Dr. James H. Means, Boston; Dr. Leonard G. Rowntree, Rochester, Minn.; Dr. Clarence M. Grigsby, Dallas, Texas; Dr. Francis M. Pottenger, Monrovia, Calif.; Dr. Frank Smithies, Chicago; Dr. David Riesman, Philadelphia; Dr. John Phillips, Cleveland; Dr. R. S. Dinsmore, Cleveland.

The specialties are represented by the following distinguished physicians:

Dr. James M. Martin, Dallas, Texas (roentgenology); Dr. Alfred S. Warthin, Ann Arbor, Mich. (pathology); Dr. Gabriel Tucker, Philadelphia; Dr. Frank C. Mann, Rochester, Minn. (clinical pathology); Dr. Irwin Abell, Louisville, Ky. (obstetrics-gynecology); Dr. Nathaniel Allison, Boston (orthopedic surgery); Dr. Alan Brown, Toronto, Canada (pediatrics); Dr. Fritz B. Talbot, Boston (pediatrics); Dr. William B. Hendry, Toronto, Canada (obstetrics-gynecology); Dr. Edward A. Strecker, Philadelphia (neurology-psychiatry); Dr. Charles Herbert Best, Toronto, Canada.—*J. Arkansas Med. Soc.*

**Clinical Congress of Physical Therapy and Sixth Annual Meeting of American College of Physical Therapy**—The American College of Physical Therapy announces that plans have been completed for its 1927 clinical congress of physical therapy and sixth

annual meeting to be held at the Hotel Sherman, Chicago, October 31 to November 5.

The program is extraordinary in character. The first three days are to be devoted to a school of instruction. For this purpose the country's most prominent clinicians and teachers have been selected, and intensive fundamental and clinical training will be given. There will be one day of sectional meetings, the following distinct sections being represented: (1) Medicine, Diagnosis, Pediatrics and Endocrinology; (2) Surgery, Gynecology, Urology, Orthopedics; (3) Eye, Ear, Nose, Throat, Oral Surgery.

The fifth day of the congress will be devoted to a joint session. Numerous special addresses by some of the foremost leaders in medicine will be offered. These will be of general interest to all whether in one specialty or another. The closing day will be given over to hospital and dispensary clinics.

Inasmuch as physical therapy has made such rapid strides in the past few years, a gathering such as this is of vital interest to every practitioner and specialist. The program in itself is attractive, but additional features in scientific and commercial exhibits, demonstration clinics, small group conferences, etc., will help to make this congress an unusual event.

Physicians in good standing in their county societies are eligible to attend, as are also technicians and doctors' assistants properly vouched for.

Those contemplating attendance are urged to enroll by mail as early as possible. The fee for the instruction classes is \$10, payable by all whether fellows of the college or not. Non-fellows of the college must pay in addition a registration fee to the assembly of \$5. Send for program and information to Chairman, Convention Committee, American College of Physical Therapy, Suite 820, 30 North Michigan Avenue, Chicago.

#### Examinations United States Public Health Service

—Examinations of candidates for entrance into the Regular Corps of the United States Public Health Service will be held at the following-named places on the dates specified:

At Washington, D. C., November 7, 1927.

At Chicago, Ill., November 7, 1927.

At New Orleans, La., November 7, 1927.

At San Francisco, Calif., November 7, 1927.

Candidates must be not less than 23 nor more than 32 years of age, and they must have been graduated in medicine at some reputable medical college, and have had one year's hospital experience or two years' professional practice. They must pass satisfactorily, oral, written, and clinical tests before a board of medical officers and undergo a physical examination.

Successful candidates will be recommended for appointment by the President, with the advice and consent of the Senate.

Requests for information or permission to take this examination should be addressed to the Surgeon-General, United States Public Health Service, Washington, D. C.

**Health and Safety Hazards**—Dr. Thomas R. Crowder, president of the American Association of Industrial Physicians and Surgeons, has appointed a committee to study the health and safety hazards in the twelve major industrial groups represented in the membership of the association. These groups include: automobiles, chemicals, electrical, food, foundries, iron and steel, metal, mining, public utilities, rubber, textiles, and office and trade.

Each member of a committee will make an investigation of those conditions in his own organization entailing possible or positive health hazards. This information will be assembled for analysis and study. The results will be made available through the bulletin of the association.

It is believed that no one can be found better equipped to study and estimate properly the conditions of modern factory and office life than the medical director whose chief concern is the well-being and safety of those employed in such work. Each industry is confronted by problems peculiar to its own

conditions of employment. These problems belong, primarily, to the industrial physician whose experience has already given him an intimate knowledge of the conditions that affect the health and safety of the employees in his own organization.

It is expected that the assembled information resulting from this study will form a worthwhile contribution to the question of industrial medicine and hygiene in this country where this investigational type of work has lagged behind a similar work in Europe. On the other hand the development of medical organizations in industrial work in America has far outrun a similar activity in European industry. With the completion of the work now under way by this committee, the health problems of major industrial groups in this country should be better appreciated than they are at the present time.

#### Medical Reserve Officers Ordered to Active Duty

—The following Medical Reserve officers have been ordered to active duty at the Presidio of San Francisco, California, for the period September 11-24, for a special course of instruction pertaining to the administrative management of large army hospitals:

Colonel James A. Mattison, Sawtelle, California; Colonel Archie C. Van Cleve, Portland, Oregon; Colonel Samuel E. Lambert, Spokane, Washington.

Lieutenant-Colonel Frank P. Gardner, Seattle, Washington; Lieutenant-Colonel Fredrick T. Harris, Seattle, Washington; Lieutenant-Colonel Raymond A. Akin, Sawtelle, California; Lieutenant-Colonel Horace M. Francis, Corvallis, Oregon; Lieutenant-Colonel Charles E. Mordoff, Oakland, California; Lieutenant-Colonel Chauncy M. Benedict, Salt Lake City, Utah; Lieutenant-Colonel Charles E. Butts, Spokane, Washington; Lieutenant-Colonel John E. McKillop, Los Angeles, California; Lieutenant-Colonel Newton G. Evans, Los Angeles, California.

Major Lynn C. Smith, Adin, California; Major William J. Hosford, Santa Cruz, California; Major John M. Henderson, Seattle, Washington; Major Robert T. Legge, Berkeley, California; Major Benjamin N. Wade, Portland, Oregon; Major Earle F. Ristine, Portland, Oregon; Major Edwin J. Barnett, Spokane, Washington; Major Byron Palmer, Ocean Park, California; Major Joseph Saylin, Venice, California.

Captain Roy M. Clarke, Los Angeles, California.

#### American Hospital Association to Meet on Pacific Coast

—It is with interest that the western hospitals have received the announcement that the American Hospital Association has chosen San Francisco for the meeting place of the 1928 convention.

In the past we have deplored the fact, repeatedly, that the Association did not come West for their meeting and we feel that the directors of the association realize at last that the Pacific Coast has much that is worth while to offer this national group.

From the standpoint of western hospitals, this convention will be a means of bringing the East and the West closer together. Ofttimes western hospital executives have gone all the way across the continent, only to find it extremely difficult to apply the eastern point of view to their problems. Now we will have the opportunity of the best that any hospital has to offer, presented in our own territory where local application can be made.

San Francisco and the bay district are outstanding in the efficiency of their hospitals. It is here that many of the real leaders in medicine, nursing and general health work are to be found. Not only California but the entire West, welcomes this opportunity for closer contact with others in hospital work. —*Western Hospital and Nurses Review.*

**Safeguarding State Board Records**—The study of how to safeguard state board records has continuously aroused my interest throughout my thirteen years' stewardship as secretary-treasurer of the Board of Medical Examiners of the state of California and I am convinced that all executive officers of state medical examining boards are equally interested in a

study of this kind. The following are suggestions on how possibly to "block" imposition:

1. Require that a recent photograph of the applicant be affixed to every application and made a part of his statements under oath.

2. Require certified duplicate photographs for the purpose of sending to other sources if necessary, thus keeping the completed application in the home file.

3. Insist that each application be fully completed, and if for reciprocity make no indorsement when the applicant fails to affix his affidavit and his recent photograph. Also before making indorsement compare the data and photograph on the application from a sister state with the application in the files of the home state.

4. Issue no duplicates unless the request is supported by a recent photograph and affidavit of applicant.

5. Substantiate applicant's graduation by indorsement of the medical college. Satisfy yourself that the one who filed the application is the individual who graduated and is not an impostor. When a diploma has been lost or destroyed and medical college is extinct, greater diligence must be exercised in verifying credentials. If from foreign institutions, verification by correspondence with the medical college is of paramount importance. Also bear in mind that some foreign countries grant authority to practice without requiring the licentiate to be a graduate of a medical school. Do not confuse a foreign license to practice (called a diploma by all foreign applicants) with the diploma granting the degree "doctor of medicine" earned only after writing an approved thesis which often must be defended by open debate by the candidate for the doctor of medicine degree.—C. B. Pinkham, M. D.—*Federation Bulletin*.

#### University of California Doctor Asks State Public's

**Aid**—All residents of central and southern California who suffered, even slightly, from effects of mussel poisoning during the recent epidemic, and who have not yet made a report of their cases, have been asked to write a letter of notification to Dr. Karl F. Meyer, director of the Hooper Foundation for Medical Research of the University of California, at Fourth and Parnassus avenues, San Francisco.

Such letters will aid greatly in an investigation now being carried on as to the extent and characteristics of the poison epidemic, he says.

Doctor Meyer asks that those who have felt the effects of such poisoning, either shortly before or shortly after July 15 from eating Pacific Coast shellfish send a record of the date on which the shellfish were gathered, directions as to how and exactly where they were obtained, and the name of the physician if one was called.

Preliminary tests conducted by the Hooper laboratories have disclosed that the poisoned condition of the shellfish arose probably from a sudden influx of indigestible food to which the mussels were unaccustomed. In order to further check this finding, and to establish as complete a record as possible for future protection of the public, it is desired to list every case of poisoning and to map every site from which the dangerous food was collected.—*U. C. Clip Sheet*.

### MEDICAL ECONOMICS

#### A Follow-Up System in the Collection of Fees

In this issue editorial comment is made on the subject of fee collections and mention is made of a series of stickers and reminders, which were devised years ago, and which were printed for the members of the Los Angeles County Medical Association. The writer has used them in his own office from the time he arranged them years ago. It is a simple system which the office secretary carries on in regular routine, and which makes a minimum call on the physician's supervision.

The plan comprehends the sending of statements so that by the end of the sixth month, if the delin-

quent patient has given no indication of desire to pay, either in whole or in part, the account will then automatically be sent to a collecting agency. The collecting agency is told to endeavor to collect the account, so that, in the future, such type of patient will find it unprofitable to bring either himself or the same kind of friends to the office.

#### First Statement

The first statement is rendered as near after the first of the month succeeding that in which the services were rendered, as is convenient. It follows the usual form of all such statements.

#### Second Statement

This is the ordinary statement, no reminder being enclosed, the statement being sent at the beginning of the second month after the services were rendered.

It may be added that two forms of statements are printed. The first or memorandum statement which is sent out has printed thereon the following:

"Financial accounts, the sending of statements, and so on, are in charge of the office secretary. Statements are issued upon completion of services, and monthly."

After this first statement has been sent, a similar statement is used, except that in addition to the foregoing note the following is printed thereon:

"For your information, in case previous statements went astray in the mails, I would state that this is the \_\_\_\_\_ month we have mailed this statement.

Secretary."

#### Third Statement

This statement is rendered at the beginning of the third month after the services were rendered. Attached thereto is a sticker, printed in red, which is as follows:

*Our bookkeeper fails  
to find your account  
settled on our books  
Please help him out.*



#### Fourth Statement

This statement is rendered at the beginning of the fourth month after the services were rendered. Attached thereto is a sticker, printed in red, which is as follows:

**PAST DUE!**

*This Account has no doubt escaped your notice. Will you please favor us with a remittance by return mail and oblige?*

#### Fifth Statement

With the fifth statement goes a red sticker, as follows:

**THIS ACCOUNT  
IS PAST DUE.  
PLEASE REMIT.**

#### Sixth Statement

With the sixth statement goes a card, about five by three inches, printed on ordinary stock paper, in black or red ink, reading as follows:

#### Regarding Your Past-Due Account

Our records show that several statements and re-

Note—The fifth, sixth, and seventh statements can now be sent at intervals of ten, fifteen, or thirty days, according as the physician thinks best.

mindings have been sent you regarding the enclosed statement.

If your circumstances have made it impossible for you to pay the amount due, kindly write us promptly to that effect. Our office will then endeavor to extend all possible courtesies.

You appreciate, we are sure, that physicians, like other citizens, must pay their bills promptly. They can only do so, however, when their own clients in turn pay them promptly for such professional services as may have been rendered.

A check to cover your account, which is now considerably overdue, will be appreciated.

✱

#### Seventh Statement

With the seventh statement goes a similar card, on which is printed:

#### Final Notice

In practically all businesses the custom which is generally followed with overdue accounts is to send such to a collecting agency.

Our bookkeeper has nothing in the records of the office to show when you intend to pay the enclosed account. Perhaps the previous statements and reminders may have been overlooked or ignored.

Following the rule of this office, this overdue account will be sent to the collecting agency within ten days if arrangements for its settlement are not made prior to that time.

This collection bureau method is disagreeable to us; and we believe, also to you. By promptly sending your check all this can be avoided.

When an account is sent to the collecting agency that organization takes full charge of it thereafter.

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When the above series of statements have been sent, and the patient has not been heard from, it may be assumed that it is a very proper account for a collecting agency and is forwarded to one such.

All collecting agencies have their own methods, but they nearly always make it somewhat disagreeable if the person owing the money does not pay. Patients who do not pay are undesirable patients in private offices, and should not be permitted to rob physicians of time and energy. On the other hand patients sometimes are treated who suffer from temporary financial embarrassment, and such patients should have an opportunity to liquidate their indebtedness without undue hardship. The plan above devised, when used as a routine system, works to good advantage for both classes of patients. The number of accounts which go to the collecting agency is not very great, and the elimination of the undesirable patients is quite effective. A slip is usually clipped to the history card on which are noted the dates on which the statements were sent out.

## READERS' FORUM

**Poliomyelitis in California**—A letter from the director of the State Board of Health.

August 4, 1927.

To the Editors:

There is an epidemic of poliomyelitis in California at this time, and many physicians have asked for convalescent serum for the treatment of cases of poliomyelitis. Since experienced observers feel that better results are obtained with the use of pooled convalescent sera, it seems advisable to provide a means of collecting and distributing this serum through a central station where the blood will be tested and pooled.

Dr. K. F. Meyer of the University of California Medical School, San Francisco, is willing to supply sterile containers for the collection of blood from patients convalescing from poliomyelitis whose temperatures have returned to normal.

We ask your cooperation. Requests for the sterile containers may be sent to the Division of Epidemi-

ology, State Department of Public Health, Berkeley, or directly to Dr. K. F. Meyer. Whenever any physician in your locality wishes convalescent serum, there will be available for him as much serum as may be on hand at that time. The amount of blood available for treatment of cases will depend upon the amount which can be collected. For this reason we urge your cooperation. From fifty to one hundred cubic centimeters of blood from a patient is desired. Inasmuch as the sera are to be pooled, smaller quantities will be appreciated.

Yours very truly,

WALTER M. DICKIE, M. D.,  
Director.

## CALIFORNIA BOARD OF MEDICAL EXAMINERS

By C. B. PINKHAM, Secretary

The 1927 directory published by the Board of Medical Examiners, recently distributed, contains considerable interesting information showing that there is a total of 9745 licensed practitioners whose certificates under the Medical Act are in good standing. Of this group 8238 licentiates are located in California and are divided into 7699 physicians and surgeons; 45 naturopaths; 134 drugless practitioners; 243 chiropractors, and 117 midwives. There is also printed a survey of the various cities and towns in California where an occupational tax or ordinance is in effect.

The 1927 amendments to the Medical Practice Act became effective July 29. Attention is drawn to the prohibition of the ambulatory treatment of narcotic addicts provided in the amendment to Section 14. The reciprocity feature of the law has been changed to require an oral examination on an application based upon a license issued by a sister state which is dated ten or more years before the filing of the application in California. In other words, direct reciprocity is available only to those who have been licensed in another state within a ten-year period of the filing of the application in California.

At the meeting of the Board of Medical Examiners held in San Francisco, June 28, 1927, the reciprocity license heretofore issued to Walter R. Anderson, M. D., of Portland, Oregon, entitling him to practice as a physician and surgeon in the state of California, was revoked.

The organization of a new university is forecast in an article published in the *Los Angeles Examiner* of July 23, 1927, relating that an International University of Astrology in southern California will be the outgrowth of the first convention of the National Astrological Association. "We are out to stop the fakir," A. B. Hasting said yesterday. "We must stop them. Astrology is a dignified science and must be put on the same basis as medicine, law, and other sciences." . . . The principal speaker last night was Dr. John H. DeQuer, osteopath, who spoke on 'Astrology as Light on Obscure Medical Cases.' The records show that John H. DeQuer was reported to have paid a fine of \$100 in the municipal court in Los Angeles on February 17, 1926, the prosecution being conducted by the Board of Osteopathic Examiners.

J. E. Baker, M. D., reported as having been arrested in Corona May 10, 1927, and thereafter having been sentenced to a \$200 fine and twenty days in jail for violation of the state poison law, has been cited to appear before the Board of Medical Examiners at the October, 1927, meeting to show cause why his license as a physician and surgeon in the state of California should not be revoked.

According to the San Francisco *Bulletin* of July 20, 1927, Dr. Adalbert B. Berk, New York skin specialist,

died in the Fairmont Hotel, San Francisco, of a heart attack on July 18.

Following a trial in which defense evidence was introduced to show the defendant had been made the victim of a "spite" move by police, a jury in the court of Municipal Judge Ambrose today acquitted Dr. Fred J. Barnet, Los Angeles physician, who was charged with possessing and selling intoxicating liquor. . . .—*Los Angeles Herald*, May 27, 1927.

According to the report of our Special Agent Carter, William E. Brown, D. C., licensed as a drugless practitioner, and also licensed under the Chiropractic Board, was arrested on July 28, 1927, in Los Angeles, charged with violation of the Medical Practice Act, it being alleged that he not only performed operations, but also wrote prescriptions for medicines. He is reported to have pleaded guilty and to have been released on \$250 cash bail.

An alleged stock swindling scheme in which prominent Modesto business men are reported to have been mulcted out of \$54,000 is laid to W. D. Cowan, secretary of a hospital association, according to the warrant for his arrest issued here today. . . . In addition to the charge of obtaining money under false pretenses, Cowan will also face charges of practicing medicine without a license, Harry G. Henderson, representative of the State Board of Medical Examiners, announced here today. . . .—Press dispatch dated Modesto, June 14, in the *San Francisco Examiner* of June 15, 1927.

The State Industrial Accident Commission today appointed Dr. Michael Creamer assistant state medical director. . . . His appointment was made possible by the recent death of Dr. H. E. Southworth, who held the position for many years. The duties of the office consist of advising the Industrial Accident Commission on the difficult medical questions in the cases that come before that body.—*Los Angeles Express*, May 27, 1927.

A recent decision handed down by the Second District Court of Appeals to the effect that in counties having the new municipal courts, said courts have exclusive jurisdiction not only in the city, but in the entire county, in all civil cases involving less than \$1000 and in all criminal misdemeanors, adds more difficulties to the enforcement of law, particularly the Medical Practice Act.

According to the report of our Special Agent Carter, Cora L. Compton, said to be a Chirothesian, and advertising herself as a "vibro-therapist," was recently charged with violation of the Medical Practice Act in Pasadena, it being alleged that for six months she treated a patient for tumor, saying that she could dissolve the tumor by magnetic vibration. It is further related that "she stated to patients that she belonged to an organization and paid money every year for protection"—evidently referring to the Chirothesian Church.

The act regulating the practice of dentistry in California has been strengthened by a bill introduced by Senator Inman of Sacramento, and signed by Governor Young, which increases the penalties for fraud in connection with dental certificates and other law violations by deftists. The law makes it a prison offense to sell, alter, or counterfeit a dental degree or diploma, according to the *San Francisco Examiner* of May 24, 1927.

A citation has been issued calling Carleton W. Faull, M. D., before the Board of Medical Examiners at the October, 1927, meeting to show cause why his license to practice in the state of California should not be revoked. It is necessary for the board to serve

the citation by publication, inasmuch as following Doctor Faull's reported activities with two street fakirs at 1006 Broadway, Oakland, and their nostrums called "Zan" and "Arlo Balm," he disappeared, since which time his whereabouts have not been known.

A citation has been issued calling Homer J. Flinn, M. D., before the board at the October, 1927, meeting to show cause why his license to practice in the state of California should not be revoked based upon the record of conviction of violation of the Harrison Narcotic Act; also, incarceration in the state penitentiary at Walla Walla, Washington, on a charge of grand larceny, to wit, issuing fraudulent checks. Doctor Flinn formerly practiced in Los Angeles, Calexico, and Oakland, California.

Dr. W. W. Fitzgerald, a prominent physician of Stockton until a decade ago, was adjudged entitled to receive benefits from the Globe Indemnity Company of New York as the result of total disability, by the Third District Court of Appeal in an opinion handed down today. Following an attack of influenza Doctor Fitzgerald contracted chronic nephritis and was forced to retire from active practice in his profession in 1918. The insurance company paid him benefits at the rate of \$50 per week until 1922, at which time it refused further payments. Thereupon Doctor Fitzgerald brought suit to continue the benefits. . . .—*Sacramento Bee*, August 3, 1927.

Dr. Davis Grisso's fight for restoration of his license to practice in California had been lost today when the District Court of Appeals upheld the Superior Court of Alameda County in refusing to review the case. Doctor Grisso lost his license after the coroner's jury declared him guilty in the death of Mrs. Theresa Soares, wife of an Oakland truck driver. He was freed of the death charge when the husband refused to prosecute, according to the *Oakland Tribune* of June 22, 1927. The records of the Board of Medical Examiners show that the license of Doctor Grisso was revoked October 18, 1923, since which time by a series of court actions he has endeavored to have the revocation set aside. Various entries regarding this case have been published in "News Items."

Assistant District Attorney E. S. Mitchell this afternoon dropped a bombshell into the defense of the trial of Dr. J. A. Hadley when he produced a couple of books of canceled narcotic prescriptions of Dr. J. A. Hadley filled by one drug store in Arcata showing that in the year from April, 1926, to April, 1927, Doctor Hadley had given out 586 prescriptions known in the profession as "44" especially for women, and in all, the diagnosis which the law requires to be shown on prescriptions containing narcotics is given as uterine troubles. . . . In a cupboard in Doctor Hadley's office had been found 150 of the same prescriptions.—*Eureka Standard*, July 1, 1927.

Dr. James A. Hadley was acquitted of the charge of murder against him at midnight last night on the fifth ballot taken by the jury. The first poll stood ten to two for acquittal, and the second and third ballots showed no change. One of the two for conviction switched to acquittal on the fourth ballot, the vote standing eleven to one. The fifth ballot taken at midnight showed a unanimous vote for acquittal. . . .—*Eureka Standard*, July 9, 1927.

Having served approximately a year at Leavenworth Penitentiary for alleged plotting against his estranged wife by sending her poisoned candy through the mail, Dr. Franklin E. Kerr, former Garden Grove physician, has appealed to President Coolidge for clemency, it was learned here today. . . .—*Santa Ana Register*, July 21, 1927.

The State Board of Medical Examiners restored the license to practice medicine to Charles R. Knox,

seventy-year-old physician of Los Angeles yesterday, with the warning that five years' probation would be given him to prove his ability to obey the state laws regulating medicine. Knox's license was taken away from him after he allowed "Gypsy Dan," vendor of patent medicine to use his name and license.—*San Francisco Chronicle*, July 1, 1927.

At a regular meeting of the Board of Medical Examiners held in San Francisco, June 28, 1927, the license heretofore issued to Frederick K. Lord, M. D., entitling him to practice as a physician and surgeon in the state of California was revoked on a charge of continuing to practice following the action of the board on March 9, 1926, suspending Doctor Lord's license for a period of one year.

The local office of the justice of the peace has received a letter from police officials of Honolulu seeking information about a man by the name of Doctor McAdory, who it was claimed was tried in the Burbank Justice Court in 1926 on the charge of selling narcotics. The doctor is being tried on a similar charge in Honolulu, and the prosecution is desirous of getting as much of his past history from the standpoint of his narcotic-selling proclivities as possible (*Burbank Review*, June 18, 1927). Dr. Robert J. McAdory's license to practice as a physician and surgeon in the state of California was revoked July 15, 1926, based upon his narcotic record. "News Items," May, 1926, page 676; August, 1926, page 248.

Dr. B. F. McElroy, widely known San Francisco physician and surgeon, was yesterday appointed medical director of the Market Street Railway Company.—*San Francisco Chronicle*, July 7, 1927.

A recent report to the Board of Medical Examiners relates that an individual named S. D. Malchenson, alleged to be a licensed physician and surgeon of Cumberland, Maryland, recently was reported as obtaining a considerable sum of money from Mollie Newkrug, licensed chiropractor, for the purpose of filing an application for a license to practice in California and equipping his office. Information from Maryland relates that this individual is not a physician and surgeon, nor is he licensed in that state, but is reported by the chief of police of Cumberland, Maryland, to be a physiognomist.

According to the report of our Special Agent Carter, M. E. Melle recently pleaded guilty to a charge of violating the Medical Practice Act in Los Angeles and was given a sentence of sixty days in the county jail, suspended for two years on condition that he does not violate the Medical Practice Act during the time of probation. He claims to be a licensed physician in Canada, and according to reports was last year fined \$50 for practicing chiropody in Seattle without a license. His method of procedure is unique, it being claimed that he removes corns by placing on the foot some salve which he prepares by inserting small pieces of violin string, later taking the salve off the foot, showing the violin strings to the patient, and claiming them to be the roots of the corn removed, charging, it is alleged, as high as \$18 per foot treated in some cases.

According to the *San Francisco Chronicle* of July 9, 1927, Isadore S. Millstone, a sixty-eight-year-old physician and surgeon of Cleveland, Ohio, seeking to improve his health, is alleged to have walked from Cleveland to Los Angeles.

Adele Millar, whose beauty specialist advertisements are well known to the readers of the front page of our Sunday paper advertisement section, was recently reported to have pleaded guilty in Los Angeles to a charge of violation of the Medical Practice

Act and sentenced to pay a fine of \$100 or serve sixty days in the city jail, said sentence being suspended for a period of two years on condition that she does not violate the State Medical Practice Act during that period.

Dr. Robert C. Montgomery, physician of San Juan Capistrano, who was indicted by the San Diego County grand jury several weeks ago on a charge of perjury, will not have to stand trial in the Superior Court, it was decided yesterday, when on motion of the district attorney the case against the physician was ordered dismissed and stricken from the records. Bond made by Doctor Montgomery after he had been detained in jail for almost two days was declared exonerated. . . .—*San Diego Union*, July 3, 1927.

According to the *San Francisco Chronicle* of July 10, 1927, Dr. Eldridge Roy Morlan has filed suit in the Superior Court against the Board of Medical Examiners to restore his license revoked by the board June 28 following the hearing based upon alleged illegal operations. Doctor Morlan asserted he has a number of cases that he alone is familiar with and that his advice is needed; that the decision of the state board was based upon insufficient evidence, and that he was not given ample opportunity to answer the charges. The records show that a citation was originally issued in December of 1926; hence, Doctor Morlan had the period from that date until June 28 in which to prepare his defense.

According to the *San Francisco Bulletin* of July 25, 1927, depositions of Los Angeles passengers on the Panama-Pacific liner Venezuela were to be taken to substantiate the theory that Dr. Stewart Phelps, a passenger, had met accidental death which caused his disappearance from the steamer, June 29, 1927.

Burton C. Platt, referred to as a "dietic philosopher," recently was reported to have pleaded guilty in Riverside on the charge of violation of the Medical Act and sentenced to pay a fine of \$250, which sentence was suspended on condition that he does not again violate the Medical Practice Act in Riverside County for a period of two years. Previous "News Items," Vol. 26, page 387.

The reciprocity application of Matthew Gault Platt was denied by the Board of Medical Examiners following his plea of guilty to a charge of violating the Medical Practice Act, the report showing that Doctor Platt had been given a sixty-day jail sentence by Judge Frank G. Swain of Los Angeles which was suspended for two years on condition that he refrain from any infraction of the medical laws in this state.

Alanson M. Pond, M. D., was found guilty following a hearing by the Board of Medical Examiners June 29, 1927, and the imposition of penalty was deferred until the October meeting. Previous articles in Vol. 26, pages 387 and 540.

Failure to report a case of contagious disease to the city authorities caused Drs. Carl Schultz, O. M. Richardson, and S. F. Sullivan \$100 each when they appeared before Municipal Judge Frederickson today . . . (*Hollywood News*, June 16, 1927). The records of the Board of Medical Examiners show Doctor Schultz, licensed naturopath, while Doctors Richardson and Sullivan are reported as graduates of chiropractic schools.

Dr. Woodruff Sheppard, Pasadena surgeon, yesterday addressed the delegates to the First National Astrological Association in session in the Hollywood Chamber of Commerce auditorium on the subject of "Surgical Cases with Astrological Associations." "A patient should never be operated upon when the part affected is under the moon in that period," the speaker

declared. "If such a situation exists, the patient will have trouble in recovery, but if the operation is withheld until the danger period passes, astrologically speaking, chances are that recovery will be rapid" (*Los Angeles Examiner*, July 22, 1927). There is no record of an individual named Woodruff Sheppard licensed under the Medical Practice Act.

F. S. Shinozaki, who pleaded guilty Monday to practicing medicine in Vacaville without a state license, was fined \$100 yesterday by Judge Edward Butler, but released on probation on condition that he would not within two years practice medicine within this state. Shinozaki has had offices in Vacaville, where he has been dealing in some sort of healing in violation of the Medical Act.—*Sacramento Bee*, July 28, 1927.

Dr. William B. Shore returned from San Francisco this morning where he was put on a year's probation by the Board of Medical Examiners for his conviction here in January on a charge of selling liquor. The board found him guilty of "moral turpitude." Doctor Shore will resume his practice here (*Ventura Post*, July 1, 1927). Doctor Shore has evidently left Ventura, as inquiries have come to the board as to his present whereabouts.

The result of an alleged illegal operation brought Mrs. Martha Signor of Santa Monica into Judge Albert Lee Stephen's court for arraignment on the charge of murdering Mrs. Snyder Rangel, 30. Mrs. Rangel died after the operation was performed by Mrs. Signor, a nurse, it is charged. . . —*Los Angeles Recorder*, July 11, 1927.

Special Agent Carter relates the recent arrest in Los Angeles of William Marcus Simpson, who calls himself the "king of drugless physicians," on a charge of violation of the Medical Practice Act, the complaining witness relating that Simpson had charged him \$10 for a treatment which consisted of running his hands up and down on each side of the patient. Mr. Carter relates "the recent conviction and fine of this 'king of drugless physicians,' as he terms himself, evidently was of little effect, and if we succeed in apprehending him this time will endeavor to obtain a straight jail sentence for him."

At the June meeting the Board of Medical Examiners restored the license of Clark S. Smith and placed him on probation for a period of five years.

Mystery continued yesterday to shroud the strange disappearance of Charles Stein, Bellflower physician, who has not been seen since Friday at 2 p. m., when he left his office to attend a patient. . . —*Los Angeles Times*, June 26, 1927.

The felony trial of Dr. Walter J. Sullivan, Hollywood physician, involved in the Raymond-Kelly-Mackaye fatal love triangle, yesterday was under two months' delay. . . —*Los Angeles Examiner*, July 27, 1927.

Dr. P. M. Thomas, well known as a ship's surgeon here, was held in jail in Sacramento today accused of passing a \$100 bogus check on the Sacramento Hotel. He lives at 405 Taylor Street.—*San Francisco Bulletin*, July 6, 1927.

Phillip Thomas, claiming to be a physician of 2533 Van Ness Avenue, was held by police today on a charge of larceny. Police searching guests at an Ellis Street restaurant found an earring of Marguerite Gallagher, 1423 Sacramento Street, in his possession.

It had been in her purse a few moments earlier—*San Francisco Bulletin*, July 22, 1927.

On June 28, 1927, the Board of Medical Examiners found Irving L. Ward, M. D., guilty following a hearing of charges of habitual intemperance, and placed him on five years' probation. Doctor Ward was called before the board on a similar charge in October, 1919.

Dr. Darrington Weaver, colored physician, witness at the trial of M. B. Sheffield, was exonerated today of a contempt of court charge. The complaint was brought against Doctor Weaver because he failed to appear when subpoenaed as a defense witness. Doctor Weaver explained he had been unable for financial reasons to make the trip back to Los Angeles after he had gone back to San Francisco to obtain additional witnesses.—*Los Angeles Record*, July 27, 1927.

On June 28, 1927, Walter L. Wentzel, M. D., was found guilty following the hearing of charges based upon his narcotic record, and the imposition of penalty was deferred to the October meeting.

Attention of the board having been called to the recent advertisement in one of our San Francisco papers relating that F. O. Westfall was conducting medical baths, vibrating and magno-treatments at 212 Leavenworth Street, an investigation was made disclosing that although the licensed F. O. Westfall was a man, the individual using his name at the address given was a woman who, according to the report of our investigator, claimed to be a graduate of Northwestern University Medical School and to have been licensed in California by written examination. Following her arrest on a charge of violation of the Medical Practice Act, she admitted that the name used by her was fictitious.

An individual posing as Dr. C. C. Wood has recently been reported as writing bad checks on the Southwestern Trust and Savings Bank of Los Angeles. He is described as a fluent talker, gives the appearance of having been dissipating heavily, black hair, uses medical terms fluently, weight about 145, height about five feet seven. His identity has not as yet been established.

Dr. Maud Wilde, well-known children's specialist of Los Angeles, will hold conferences with mothers all day Friday, June 24, at Educational Center, Bardsdale . . . (*Santa Paula Chronicle*, June 22, 1927). The records of the Board of Medical Examiners do not show anyone by the name of "Dr. Maud Wilde" licensed to practice in the state of California.

On June 28, 1927, the Board of Medical Examiners revoked the license of Willie E. Williams of Los Angeles, following a hearing based upon a charge of alleged illegal operation.

**Landscape Development Is Planned at U. C. L. A.—**Landscape development plans for the new Westwood site of the University of California at Los Angeles are rapidly assuming definite form through the activities of Prof. John W. Gregg, landscape architect, at present a member of the Summer Session faculty at Los Angeles.

Professor Gregg, who is head of the division of landscape design at the University of California at the present time is engaged in drafting plans for the subdivision of approximately eighty-five acres of land on the new campus which is to be developed as a faculty residential community.

The character of this eighty-five-acre tract and its location in relation to the rest of the campus and surrounding territory will make it possible, he says, to develop it into a beautiful home site for members of the U. C. L. A. faculty.—*U. C. Clip Sheet*.

